83/16-346

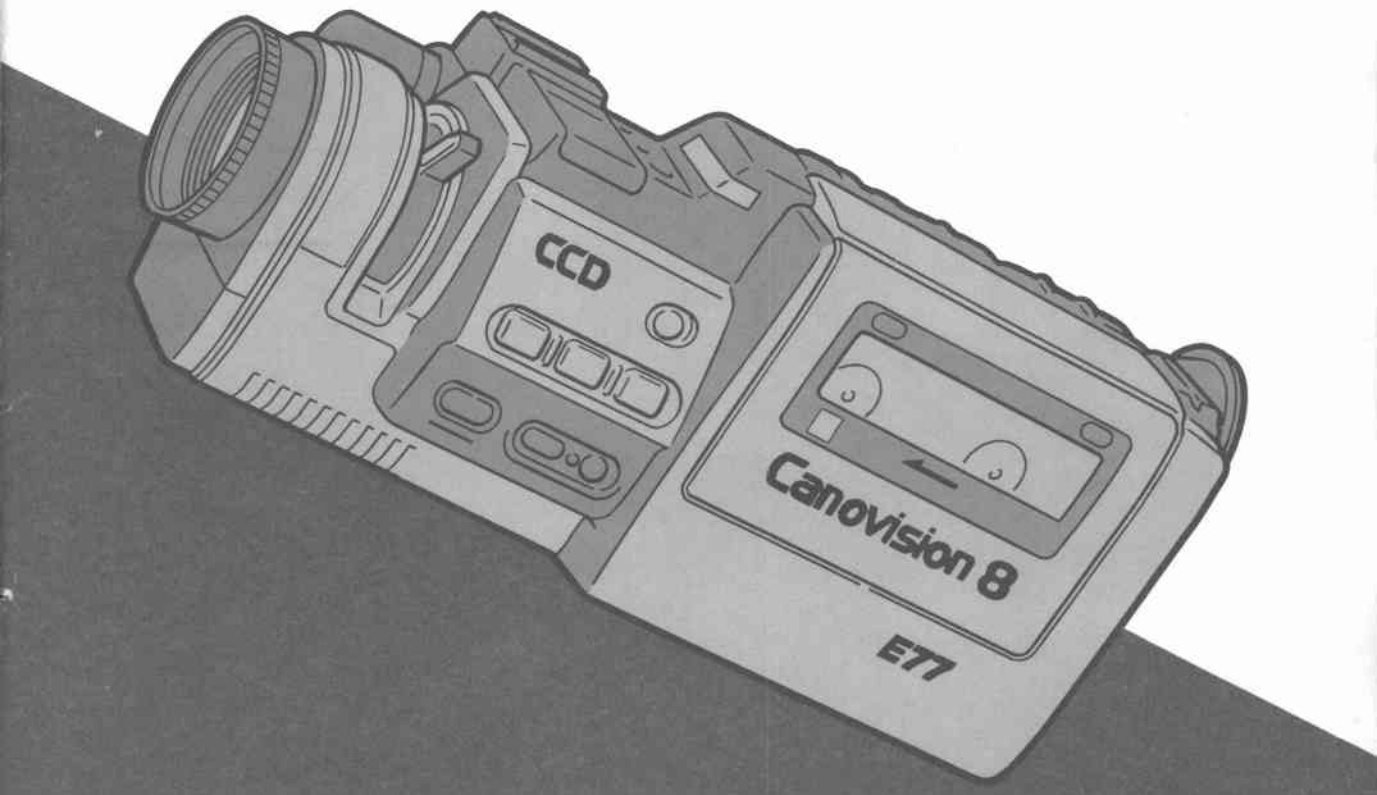
Canon

8

E77

8mm VIDEO CAMERA & RECORDER

Instruction Manual



E INSTRUCTIONS

Thank you for purchasing the Canon 8 mm Video Camera & Recorder E77. The camera can be used for both recording and playback of video cassettes recorded in 8 mm format.

- **Use only 8 mm P5 video cassettes marked with an 8 like you see on the front cover of this instruction manual.**

Please check that this package contains the following items:

E77
- Lens Cap
- Lens Hood
- One Lithium Battery
- WL-E77 Wireless Controller
- Two AAA Batteries

BP-E77K Battery Pack
or BP-E77KE Battery Pack
CA-E7 Compact Power Adapter
RU-E3 RF Unit
SS-E2 Shoulder Strap

CR-E7K Charge Coupler

Optional Accessories

WS-20 Wrist Strap
CB-E7 Car Battery Adapter
HC-E7 System Case
SC-E7 Soft Carrying Case
MM-100 Mixing Microphone
RS-E7 Rain Shield

DM-200 Super-directional Microphone
MB-100 Microphone Boom
LF-E7 Angle Finder
Wide Attachment 46
Tele-converter 1.4X 46
Multi-conversion Lens 46

Filter Set 46
Filter Set 46U
C-150 AV Cable
On sale soon:
WD-46 Wide Converter
VL-30 Battery Video Light

Important Usage Instructions

CAUTION:
TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

WARNING:
TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

CAUTION:
TO REDUCE THE RISK OF ELECTRIC SHOCK AND TO REDUCE ANNOYING INTERFERENCE, USE THE RECOMMENDED ACCESSORIES ONLY.

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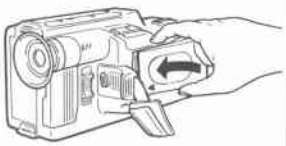
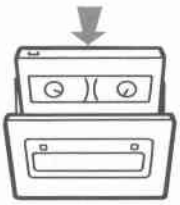
Basic Operation

Recording (See recording procedure, pp.16 ~ 19, for details.)

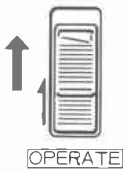
1 Attach Battery Pack.



2 Press EJECT button and insert video cassette.



3 Turn camera on.

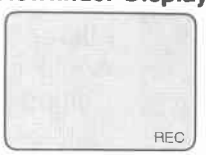


Viewfinder Display

4 Press START/STOP button.

- Press START/STOP button again to pause.

Viewfinder Display



Playback (For playback on TV, see pp.22 ~ 27.)

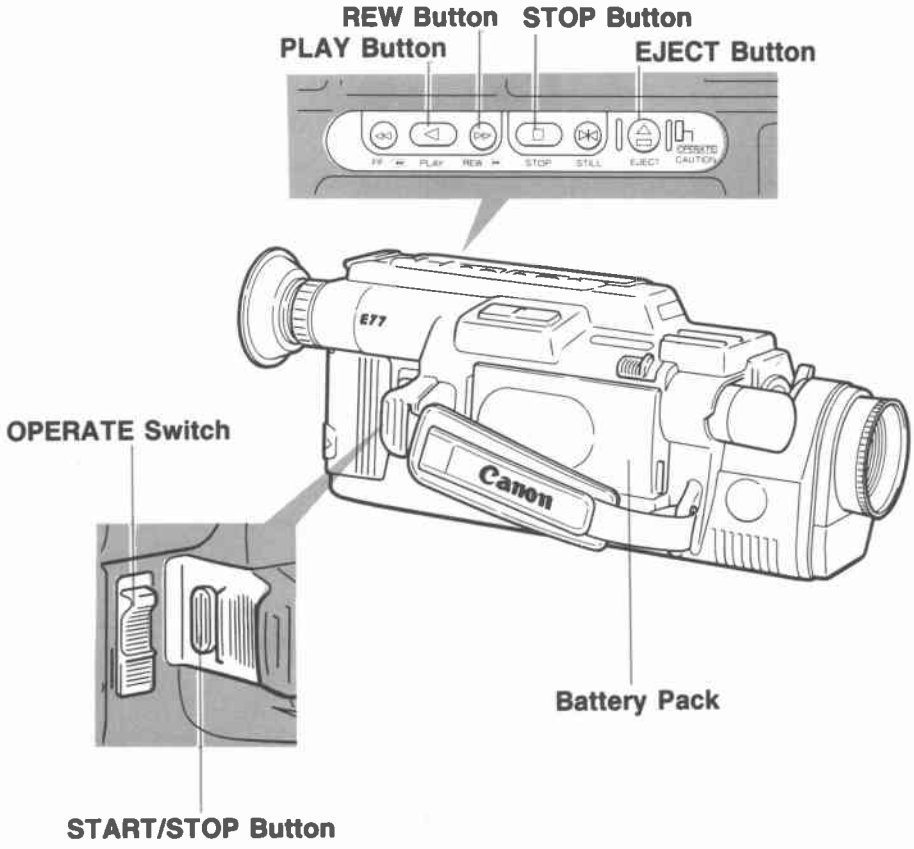
1 Press STOP button.

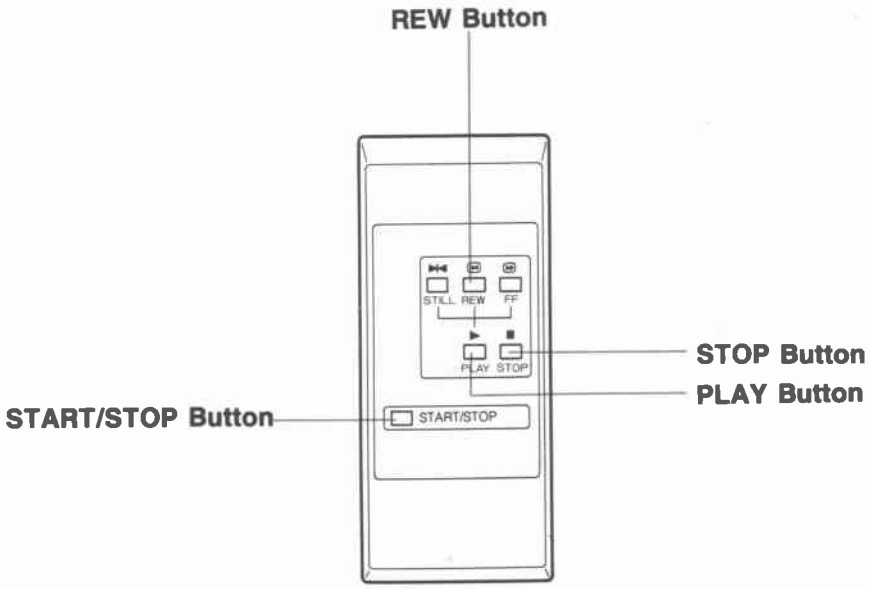
2 Press REW button.

3 Press PLAY button.

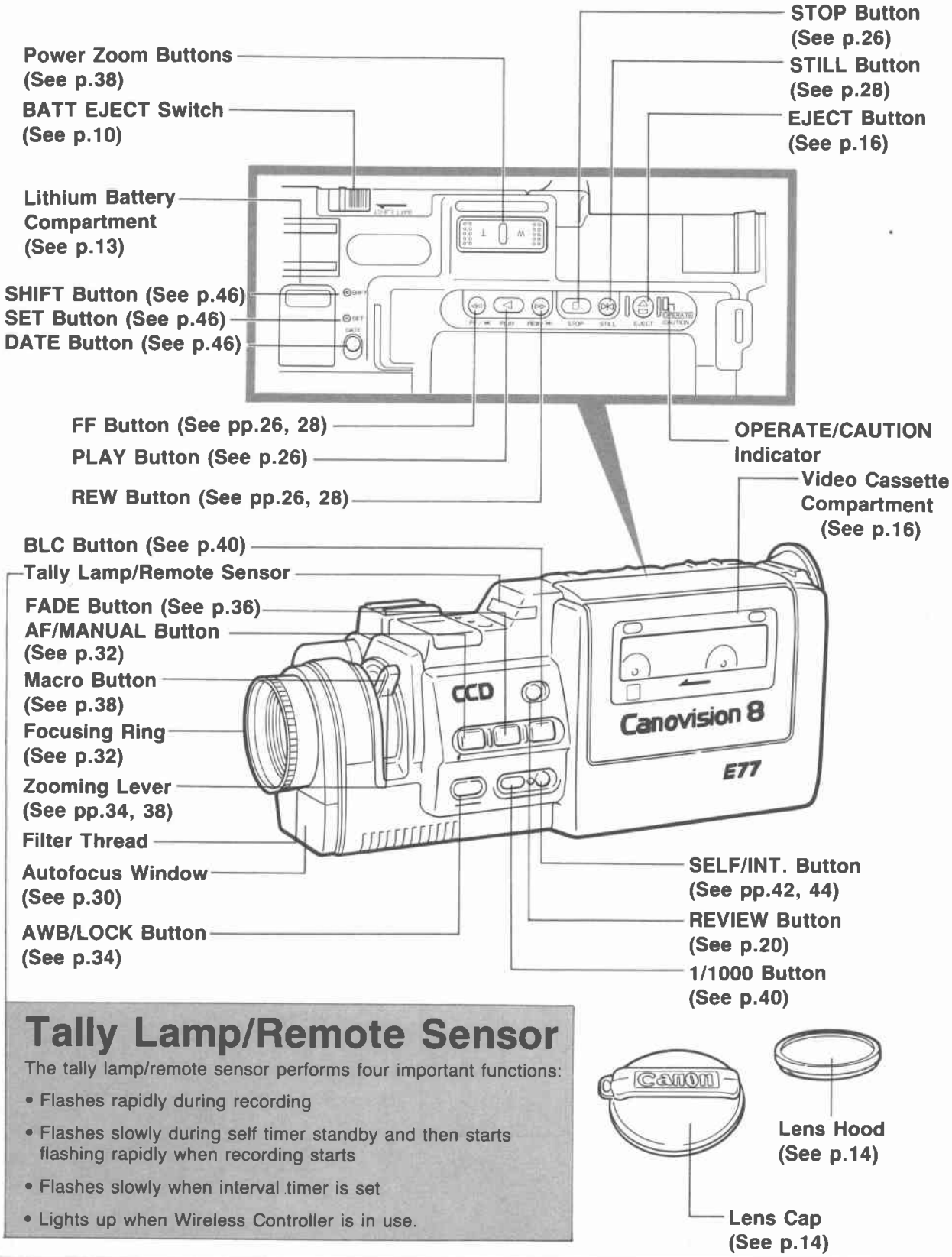
4 Watch playback in viewfinder.

- Press STOP button to end playback.


REW Button
STOP Button
PLAY Button
EJECT Button
OPERATE Switch
Battery Pack
START/STOP Button


REW Button
STILL
REW
FF
PLAY
STOP
STOP Button
PLAY Button
START/STOP Button
START/STOP

Camera Parts and Functions



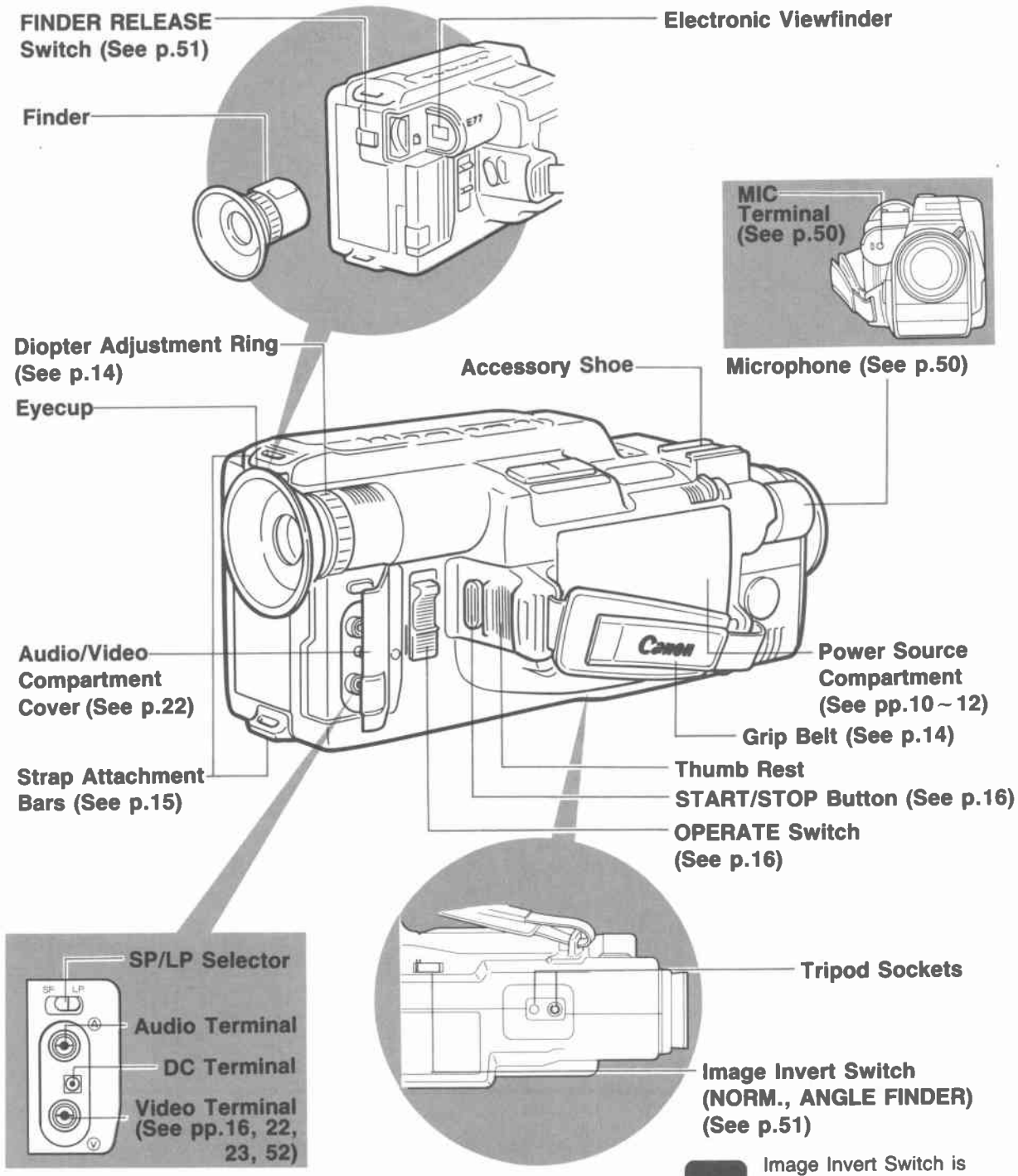
Tally Lamp/Remote Sensor

The tally lamp/remote sensor performs four important functions:

- Flashes rapidly during recording
- Flashes slowly during self timer standby and then starts flashing rapidly when recording starts
- Flashes slowly when interval timer is set
- Lights up when Wireless Controller is in use.

Lens Hood (See p.14)

Lens Cap (See p.14)



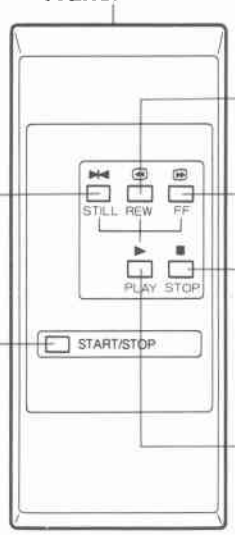
Caution Image Invert Switch is covered with sticking tape during packaging. Remove this tape the first time you set the switch.

OPERATE/CAUTION Indicator

The OPERATE/CAUTION indicator lights up when the camera is turned on. The OPERATE/CAUTION indicator will flash during recording when the video cassette has less than three minutes remaining recording time, when the Battery Pack is almost exhausted or when "DEW" is detected in the camera.

Wireless Controller WL-E77

Wireless controller buttons perform the same functions as the camera buttons.



STILL Button (See p.28)

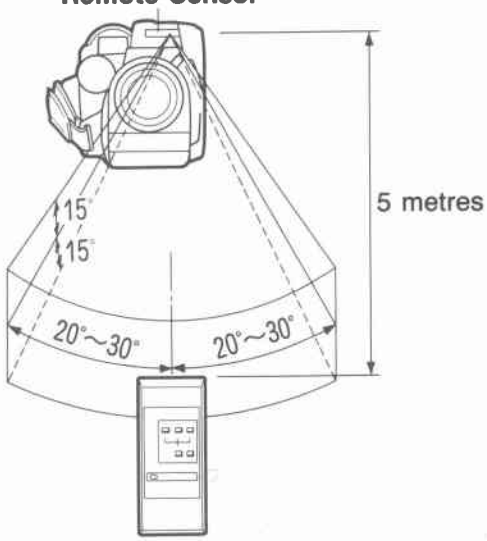
START/STOP Button (See p.16)

REW Button (See p.28)

FF Button (See p.28)

STOP Button (See p.26)

PLAY Button (See p.26)



Using Wireless Controller from a Distance

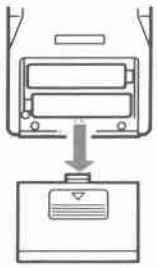
Using the wireless controller you can operate the camera from a distance and control recording, normal playback, still playback, fast forward, rewind and stop.

Operation

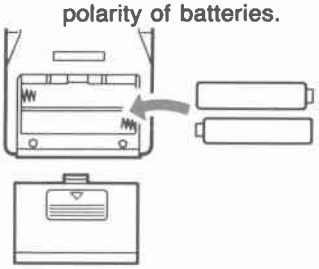
- Aim wireless controller at camera remote sensor and press control buttons to operate. The remote sensor located near the top of the camera lights up when it receives a signal.
- Operate wireless controller within 20—30° angle on either side and 15° angle above and below the camera remote sensor, up to a distance of five metres.

Inserting Batteries in Wireless Controller

1 Remove cover from back by pressing down and sliding in direction of arrow.



2 Insert two AAA batteries following + and - markings inside unit. Be careful not to reverse polarity of batteries.



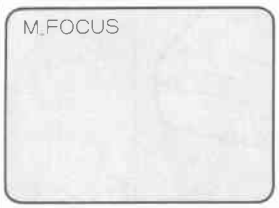
3 Replace cover following guide grooves.

The Wireless Controller operates on two AAA batteries.

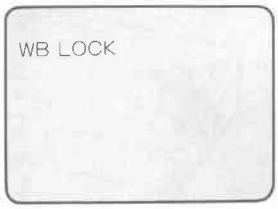
Notes:

- Autofocus function occasionally may malfunction when remote sensor receives signal from wireless controller.
- Wireless controller uses infrared beams to transmit signals so sunlight or fluorescent light on the remote sensor may shorten operating distance.
- Do not leave wireless controller exposed to direct sunlight or in hot or humid places.
- Wireless controller will not function if RS-E7 Rain Shield is attached to the camera.

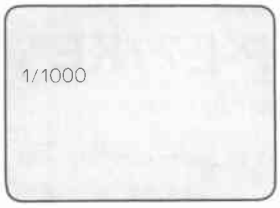
Viewfinder Displays



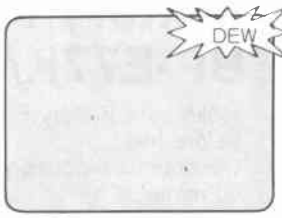
M.FOCUS
Manual focus is selected (See p.32)



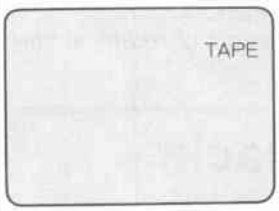
WB LOCK
White balance lock is selected (See p.34)



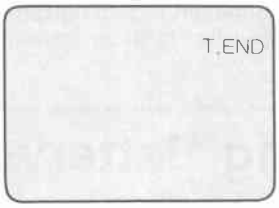
1/1000
High speed shutter is selected (See p.42)



DEW
Flashes when condensation (dew) is detected in camera (See p.60)



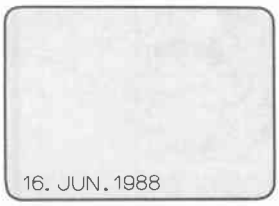
TAPE
Appears when video cassette is not loaded (See p.19)



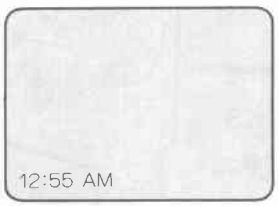
T.END
Flashes when remaining tape time is approximately three minutes; lights up when tape is used up (See p.19)

BATT
Flashes when battery charge is nearly exhausted (See pp.11, 18)

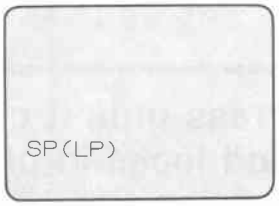
E
Appears when lithium battery charge is low or no battery is inserted (See pp.13, 49)



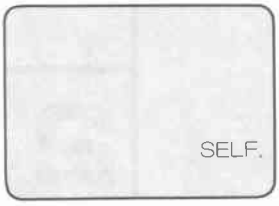
16. JUN. 1988
Date display (See p.46)



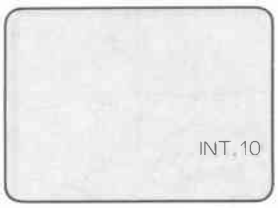
12:55 AM
Time display (See p.46)



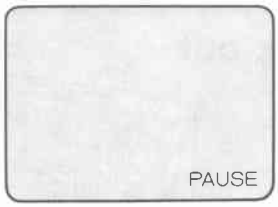
SP (LP)
Tape Speed display (See p.16)



SELF.
Self-timer is selected (See p.42)



INT.10 (INT.20, INT.60)
Appears when interval timer is selected (See p.44)



PAUSE
Camera is in record pause mode (See p.16)

REC
Camera is in recording mode (See p.16)

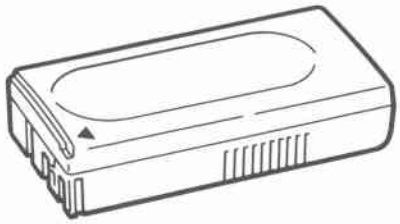
Note:

When you first turn the camera on, various displays may flash momentarily in the viewfinder. This is normal.

Power Sources

Battery Pack BP-E77K/BP-E77KE*

Make sure Battery Pack is fully charged before use.
Continuous recording time is approximately 40 minutes.



* There is no difference between BP-E77K and BP-E77KE.

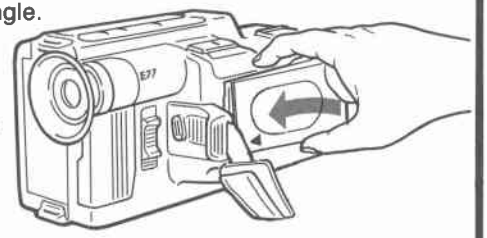
- Some camera modes consume more power than others, so actual recording time may be less than 40 minutes.
- Using Battery Pack in cold temperature will shorten recording time.
- Battery Pack normally becomes warm during use.
- Take care not to short circuit + and − terminals on the battery.
- See Battery Pack instruction manual for further information regarding Battery Pack.
- The safest policy is to have enough batteries to cover two to three times the length of recording time scheduled.

Attaching and Removing Battery Pack

Attaching Battery Pack

1 **Slide Battery Pack into power source compartment.**

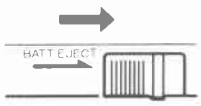
- Insert the end marked with a triangle.



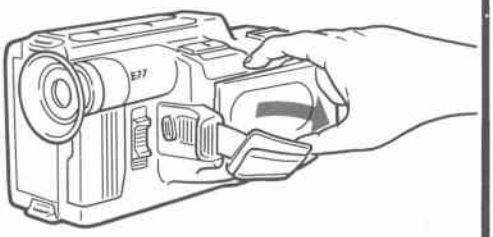
2 **Press until it clicks and locks in place.**

Removing Battery Pack

1 **Slide and hold BATT EJECT switch forward.**



2 **Pull Battery Pack out as shown.**

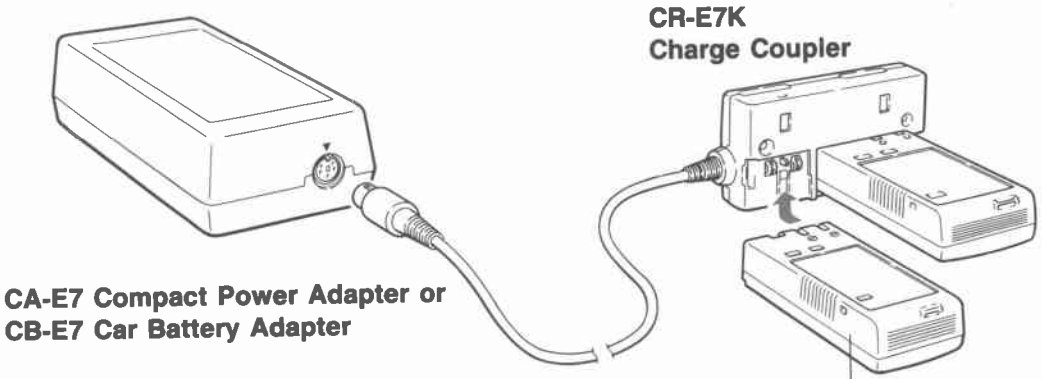


- Always place the camera in record pause mode or stop mode and turn it off before disconnecting power source.

Charging Battery Pack

Use the CR-E7K Charge Coupler to charge one or two Battery Packs. Connect the CA-E7 Compact Power Adapter (or optional CB-E7 Car Battery Adapter) and Battery Pack(s) to CR-E7K Charge Coupler as shown. Then plug into mains outlet (or car cigarette lighter socket).

- Charging time is approximately 80 minutes per Battery Pack. (Charging time varies according to surrounding temperature and remaining charge in battery.)
- When charging a brand new Battery Pack or one that has not been used for approximately six months, leave battery connected to Charge Coupler and continue charging for several hours more. (Charging will continue even though the charge-end indicator lights up.)
- Even if you do not use the camera often, recharge Battery Pack every six months to ensure performance quality.
- For further information, see Charge Coupler instruction manual.



Battery Warning

When battery charge is nearly exhausted, "BATT" flashes in camera viewfinder and the OPERATE/CAUTION indicator also flashes. Replace or recharge Battery Pack immediately.

- Be sure to turn camera off before removing the battery.

CA-E7 Compact Power Adapter
Using AC Power

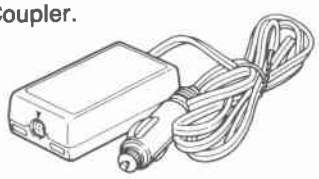
Plug into an mains outlet.
Input voltage: 100—240V AC, 50/60 Hz

- Use together with the CR-E7K Charge Coupler.

CB-E7 Car Battery Adapter (Option)
Using Car Battery

Plug into cigarette lighter socket.
For use only with 12 or 24V DC negative-ground car battery.

- Use together with the CR-E7K Charge Coupler.



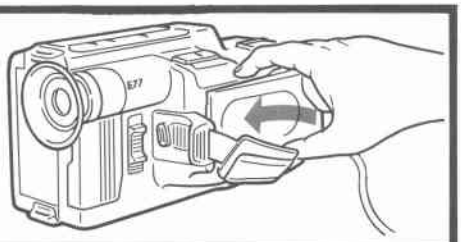
- Refer to CA-E7 and CB-E7 instruction manuals for further details.

Connection Procedure

To use the Compact Power Adapter or Car Battery Adapter:

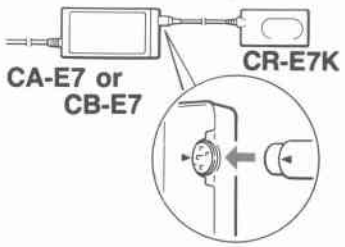
1 Insert Charge Coupler into power source compartment.

- Insert and remove in the same way as the Battery Pack. (See p.10)



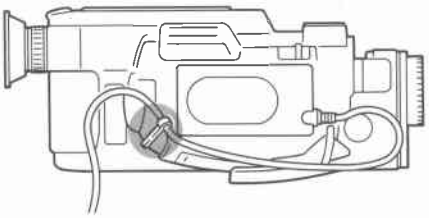
2 Attach Charge Coupler cable to Compact Power Adapter (or Car Battery Adapter) connector.

- Align triangular marks on cable and connector.



3 Attach Charge Coupler cable to grip belt as shown.

- Refer to Compact Power Adapter or Car Battery Adapter instruction manuals for further details.



Caution Using the Compact Power Adapter may cause the TV to emit noise. If this occurs, move the Compact Power Adapter further away from the TV or aerial cable.

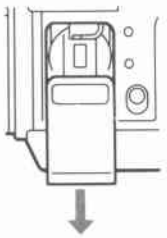
Inserting New Lithium Battery

The CR2025 type lithium battery provides your camera with enough power to store date and time settings, even when the camera is turned off.

One lithium battery will last approximately one year. When lithium battery is not in place or is nearly exhausted, "E" appears in viewfinder, indicating that the lithium battery needs to be replaced.

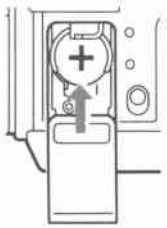
Be sure to connect the camera to a power source before changing the lithium battery, otherwise date and time settings will be cleared from camera's memory and will have to be reset.

1 **Slide open lithium battery compartment cover on top of camera until compartment is exposed.**



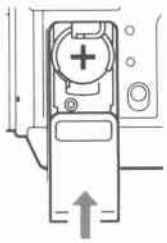
2 **Insert a new lithium battery with plus (+) side facing out.**

- Insert lithium battery in direction of arrow and press in place.



3 **Slide lithium battery compartment cover back into place.**

- Make sure cover fastens properly (snaps into place).



Warning The battery used in this device may present a fire or chemical burn hazard if mistreated. Do not recharge, disassemble, heat above 100°C or incinerate. Replace battery with Panasonic CR2025 or Duracell DL2025B. Use of another battery may present a risk of fire or explosion.

Caution

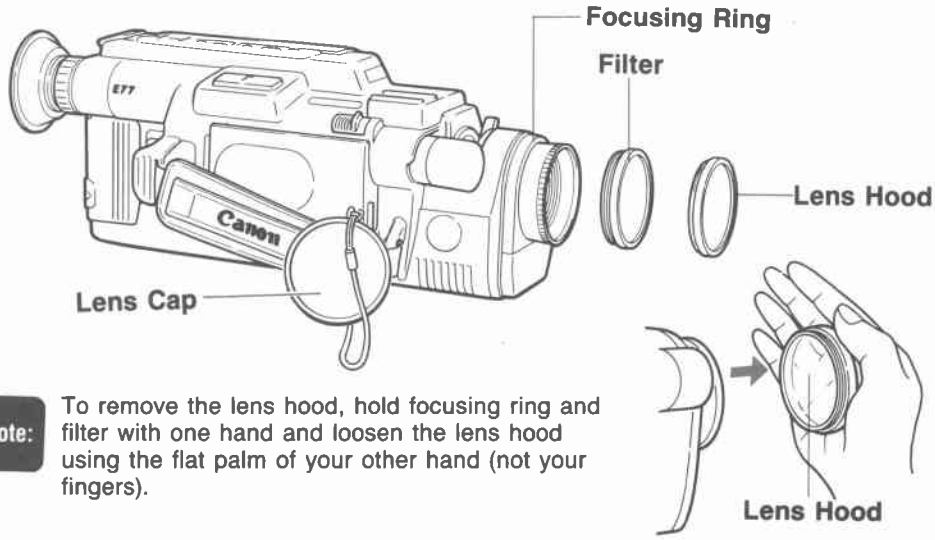
- Make sure plus (+) side is facing out of battery compartment.
- Keep battery out of children's reach. If swallowed, contact physician immediately.
- To ensure proper contact, wipe battery with clean, dry cloth before use.
- Do not pick up battery using tweezers or other metal tools which may cause short circuiting.
- Do not disassemble, heat or immerse in water, to avoid risk of explosion.
- When "E" appears in viewfinder replace the old lithium battery with a new one.

Camera Preparations

Attaching and Removing Lens Cap and Lens Hood

Remove lens cap before recording and hook it onto grip belt using clip on lens cap. Replace lens cap again when you stop recording or turn the camera off.

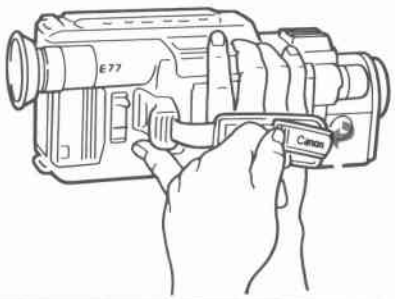
When you attach a filter to the camera lens, also attach a lens hood to the filter so that the lens cap will still fit tightly.



Note: To remove the lens hood, hold focusing ring and filter with one hand and loosen the lens hood using the flat palm of your other hand (not your fingers).

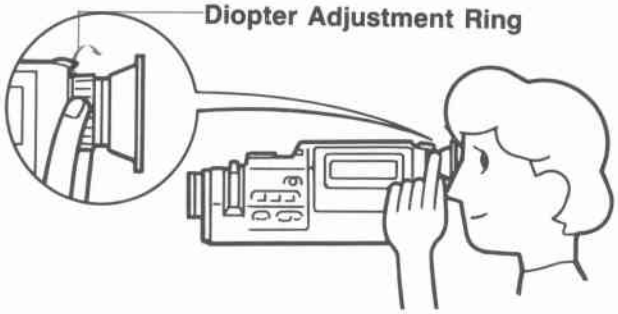
Adjusting Grip Belt

Tighten or loosen grip belt as necessary for a comfortable fit while holding grip with your right hand.



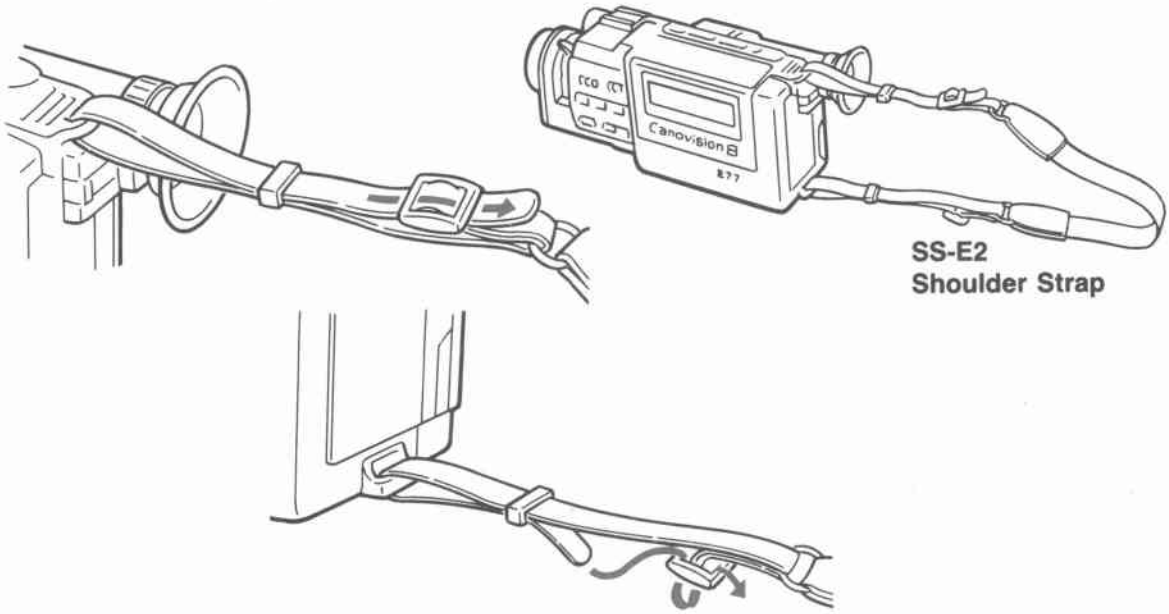
Adjusting Diopter

Adjust the diopter to individual eyesight correction when using the camera for the first time or when changing camera operators.
Simply turn the camera on and look through the viewfinder, turning the diopter adjustment ring until the viewfinder displays are clearly visible.



Attaching Shoulder Strap

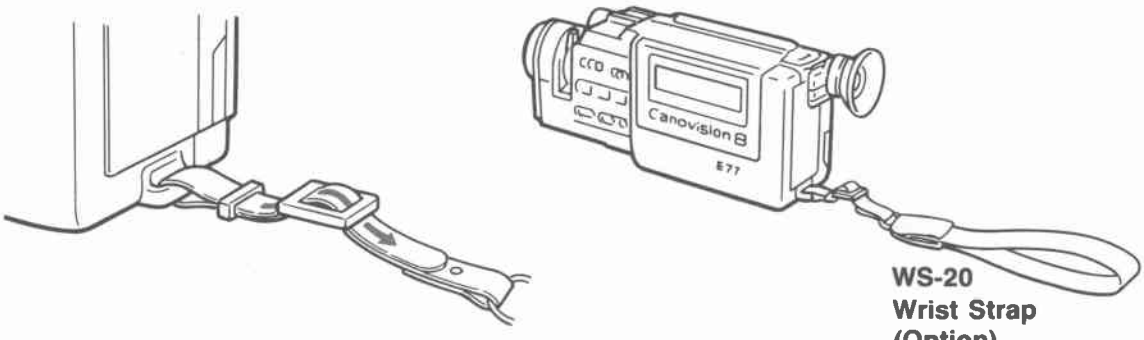
Attach shoulder strap to the strap attachment bars, and adjust it to the most comfortable length.



SS-E2
Shoulder Strap

Attaching Wrist Strap (Option)

The optional wrist strap can only be attached to the lower strap attachment bar.



WS-20
Wrist Strap
(Option)

Camera Recording

Use only P5 8 mm video cassettes marked with an 8.

1 Attach power source.

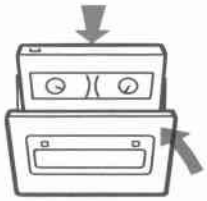
- When using a Battery Pack, make sure it is fully charged.

2 Press EJECT button.

- Video cassette compartment opens.

3 Load video cassette and close video cassette compartment.

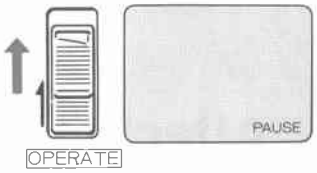
- Insert with window facing out.
- Press upper right corner gently and push to close.



4 Turn camera on.

- OPERATE/CAUTION indicator lights up.
- Camera goes into record pause mode.

Viewfinder Display



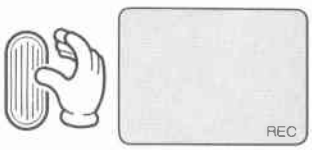
- If the camera is turned on before a video cassette is loaded, it will not go into record pause mode. If this happens, turn camera off, wait approximately five seconds and then turn camera on again.

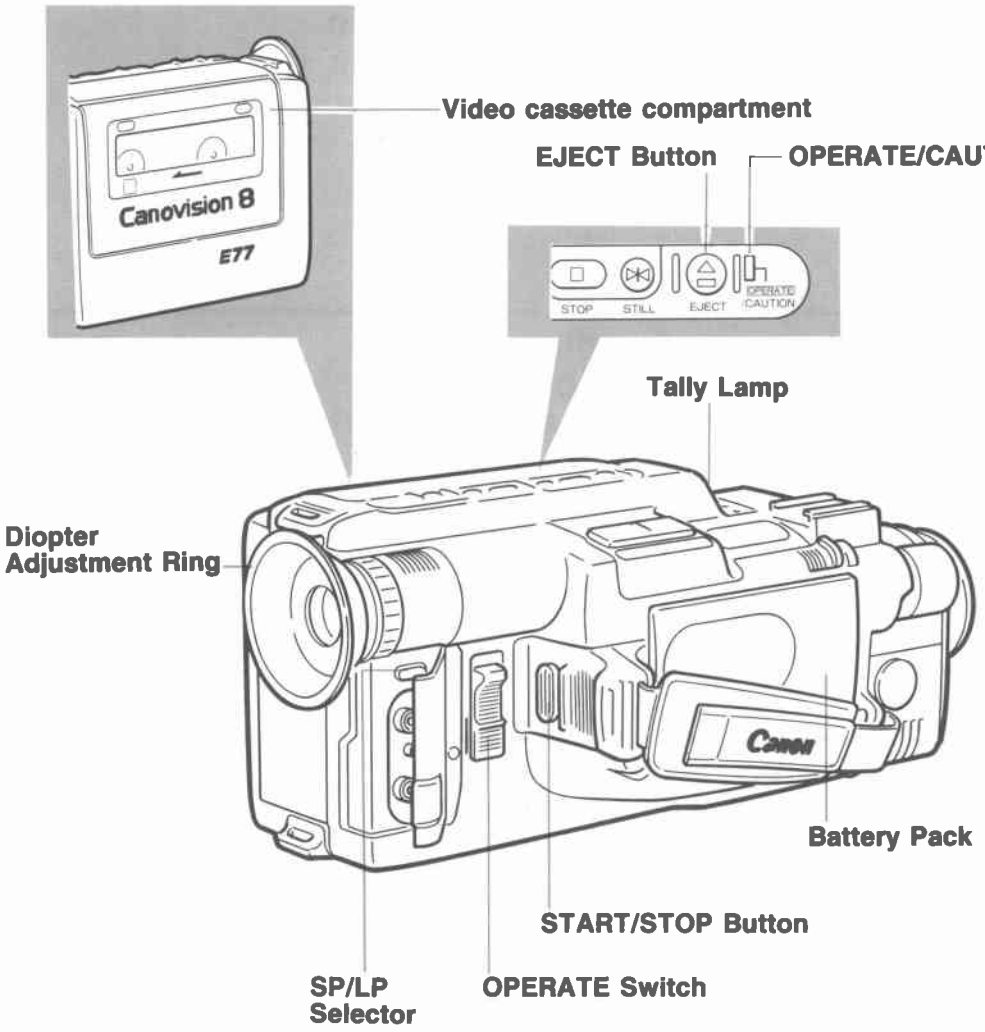
5 Set SP/LP selector to SP or LP.

- For best picture quality, select SP.
- For double recording time, select LP.
- Make sure SP/LP selector is set completely at either setting.

6 Press START/STOP button.

- Recording starts.
- Tally lamp flashes rapidly and "REC" appears in viewfinder.
- See section on getting the most out of your camera for information on making your recordings more effective.
  Zoom function p.38 Fade function p.36
  Focusing p.30 Backlight Compensation p.40



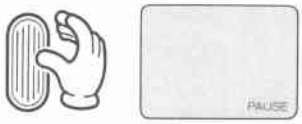


Notes:

- After you turn the camera off, wait until the OPERATE/CAUTION indicator has gone off before removing the Battery Pack.
- The camera automatically turns off if record pause mode lasts more than approximately seven minutes. To resume recording turn camera on and press START/STOP button.
- If tape speed is changed during recording, the tape will contain noise at the point.
- Do not use video cassettes with damaged or spliced tape or non-standard video cassettes.
- Check operation in the viewfinder to avoid mistakes. (See p.9)

7 Press START/STOP button again to temporarily pause recording.

- Press START/STOP button once again to resume recording.
- See "Checking Your Recording" (p.20).

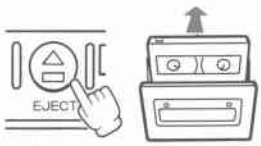


8 To end recording, press START/STOP button to pause recording, then turn camera off.

- OPERATE/CAUTION indicator goes off.

9 Press EJECT button.

- Video cassette compartment opens.



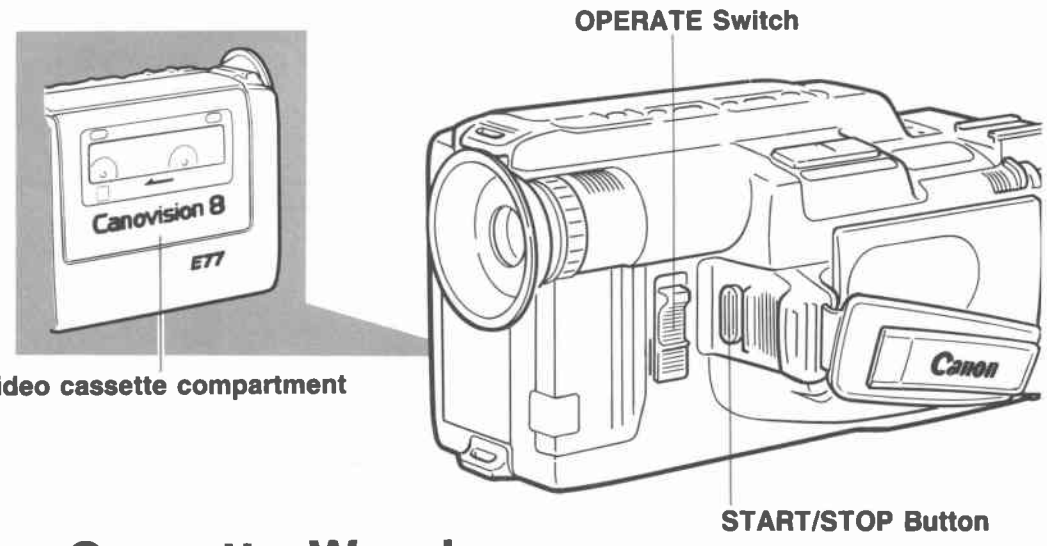
10 Remove video cassette and close video cassette compartment again.

- Push top right corner of video cassette compartment.

- If you press STOP button during record pause mode, the camera stops and will not record. Turn the camera off and then on again to return to record pause mode.

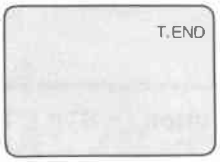
Battery Pack Warning

- "BATT" flashes in viewfinder when Battery Pack charge is nearly exhausted.



Video Cassette Warning

- "T.END" flashes in viewfinder during recording when remaining tape time is less than approximately three minutes.
- "T.END" lights up in viewfinder when tape is completely used up.



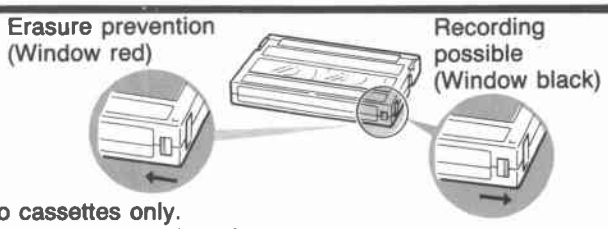
- "TAPE" appears in viewfinder if camera is turned on and a video cassette is not loaded.

Caution About Handling Video Cassettes

- Do not leave video cassette in camera after use, especially when the camera will not be in use for a long time.
- There are several holes on the video cassette back, which are used for transferring information. Do not cover them with adhesive tape or other materials.

Video Cassette Erasure Prevention Switch

To prevent accidental erasure of recorded material, set switch at bottom of video cassette as shown. Reset switch to its original position to use video cassette again for recording.



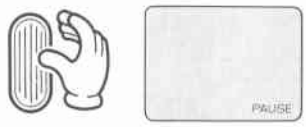
The above description is for Canon 8 mm video cassettes only.
For other manufacturers' video cassettes, refer to their instructions for erasure prevention.

Checking Your Recording

Press REVIEW button during record pause mode to play back the last segment of recorded scene (approximately three seconds) in the viewfinder. Once playback is complete, the camera returns to record pause mode where it left off.

1 **Press START/STOP button while in record mode.**

- Camera goes into record pause mode.

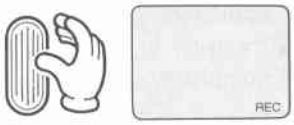


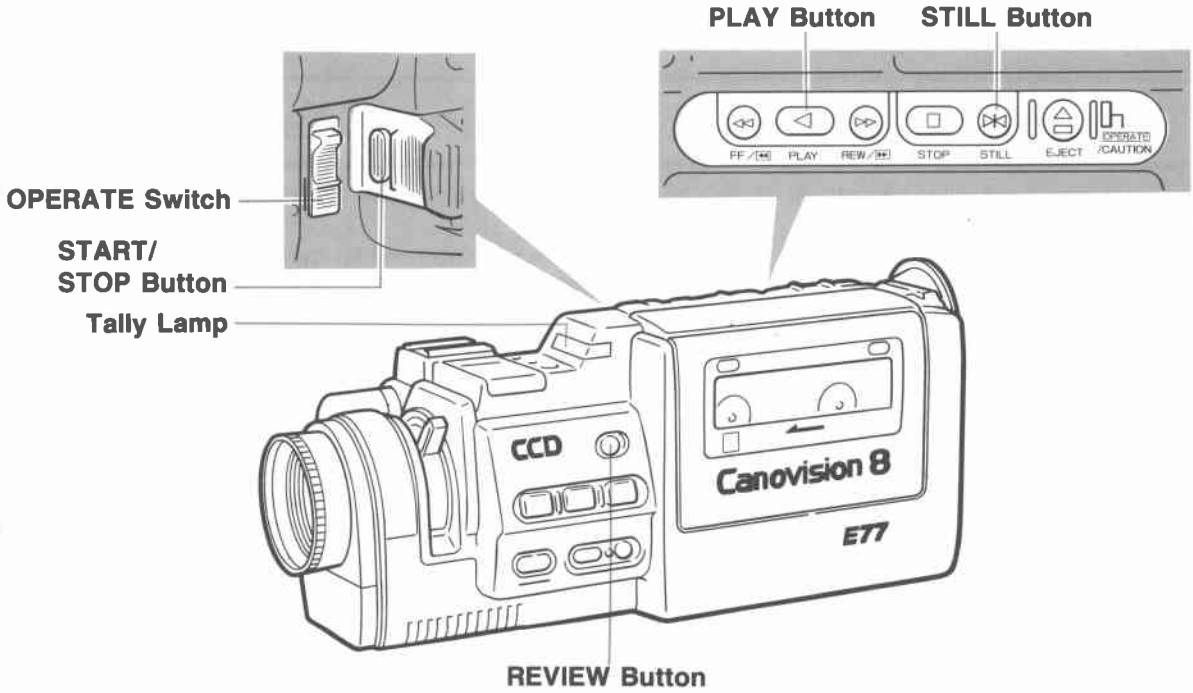
2 **Press REVIEW button.**

- Scene plays back in viewfinder.

3 **Press START/STOP button to resume recording.**

- Tally lamp flashes rapidly.





Assembly Editing

Assembly editing usually operates automatically for smooth, noise-free transition between shots. However, use manual assembly editing when the video cassette has been unloaded during recording, camera has been turned off before being placed in record pause mode, battery pack charge runs out and turns camera off, or power source has been removed during recording.

1 Use playback functions to find recording start point.

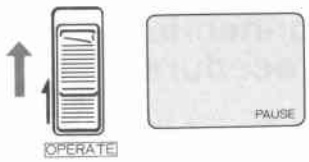
- Watch viewfinder and locate editing start position.
- See pp.26~27 for playback functions.

2 Press STILL button at recording start point.

- Camera enters still playback mode.

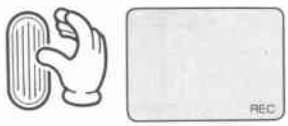
3 Turn camera off and then turn camera back on.

- Camera enters record pause mode.



4 Press START/STOP button.

- Recording begins.
- Tally lamp flashes rapidly.



Note:

- There may be some difference between point where you press STILL button and point where actual recording starts.

Playback

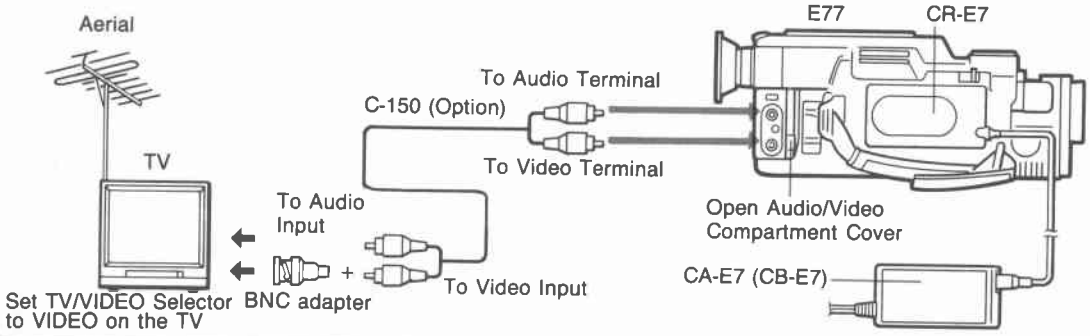
The connection procedure for playback depends on whether or not the TV is equipped with audio/video inputs.

Using TV with Audio/Video Inputs

Connection Procedure

The C-150 AV Cable (option) with RCA pin plugs, BNC adapter* and a power source are needed for playback on a TV that has Audio/Video inputs. You can use the CR-E7K Charge Coupler together with the CA-E7 Compact Power Adapter (or the optional CB-E7 Car Battery Adapter) or the BP-E77K Battery Pack as a power source.

See p.11 for details on how to connect up the Charge Coupler and Compact Power Adapter (or Car Battery Adapter).

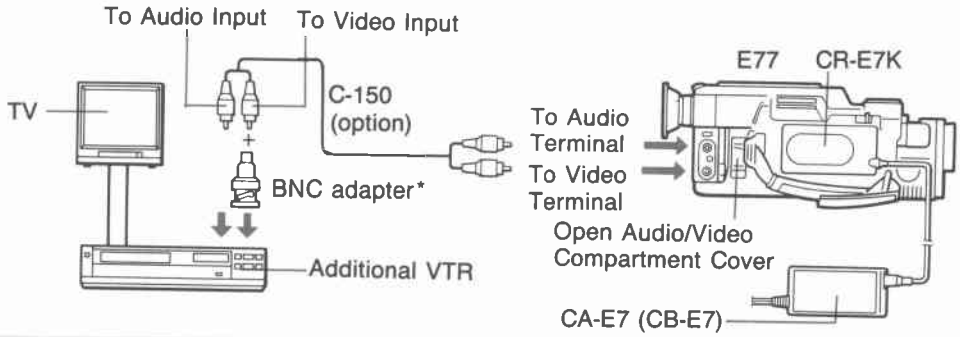


* For TV or VTR which has a BNC-type video input, use a commercially available BNC plug adapter for connection.

Using TV Connected to a VTR

Connection Procedure

- You need the camera, CR-E7K Charge Coupler, CA-E7 Compact Power Adapter (or CB-E7 Car Battery Adapter) and C-150 AV Cable (option) for playback.



High Frequency Feedback

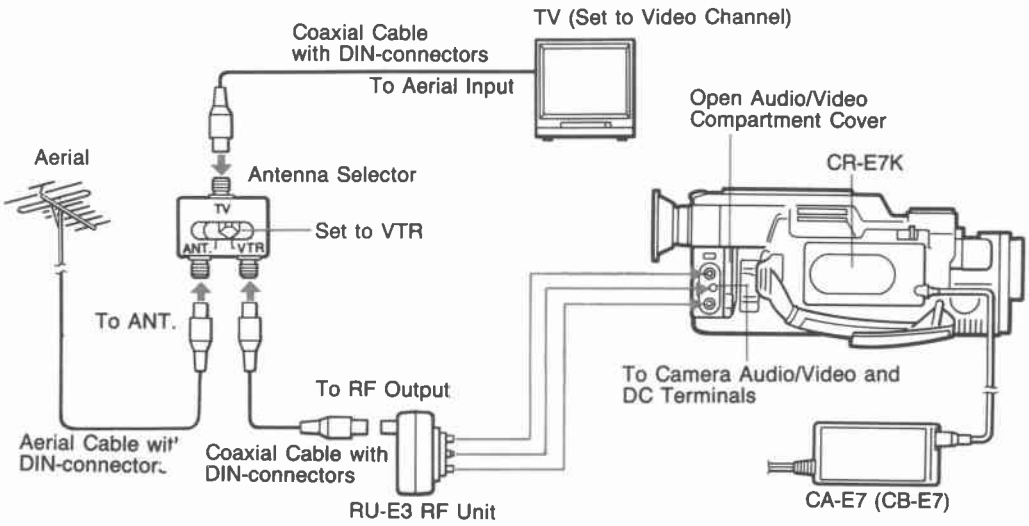
- High frequency feedback may occur if camera microphone is too close to the TV speaker. Lower TV volume or remove microphone from camera (see p.50 for microphone removal).

Using TV without Audio/Video Inputs

Connection Procedure

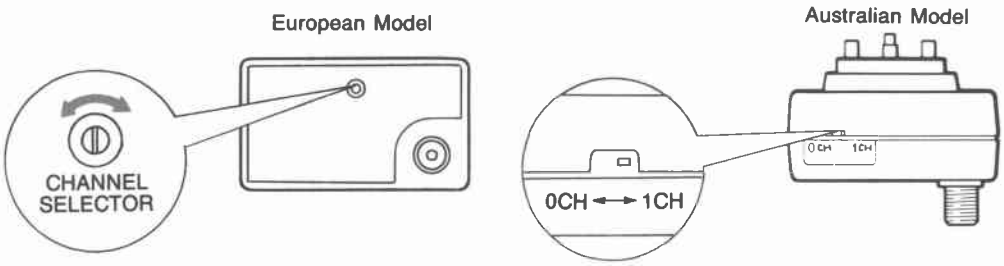
The RU-E3 RF Unit and a power source are needed for playback on a TV that does not have Audio/Video inputs. You can use the CR-E7K Charge Coupler together with the CA-E7 Compact Power Adapter (or the optional CB-E7 Car Battery Adapter) or the BP-E77K Battery Pack as a power source.

- See p.11 for details on how to connect up the Charge Coupler and Compact Power Adapter (or Car Battery Adapter).
- Refer to the RU-E3 RF Unit instructions on p.24.



Selecting the Video Channel

The video channel is the channel in your area not occupied by a broadcasting station that may be used for playback and monitoring (channel 30—39 selectable, European model; channel 0 or 1 selectable, Australian model). If you are using a TV without audio/video inputs, set both the TV and the RF unit to the video channel for playback. To set the video channel on the RU-E3, use a small flathead screwdriver.



RU-E3 RF Unit

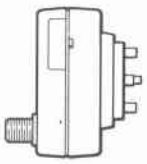
Parts included with RF Unit

For connection of RU-E3, make sure the following are at hand:

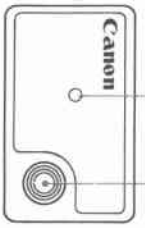
Antenna Selector

Coaxial Cable with DIN-connectors (2)

RU-E3 RF Unit



RU-E3 RF Unit

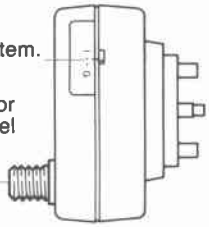


I/G Selector
Set according to TV system.

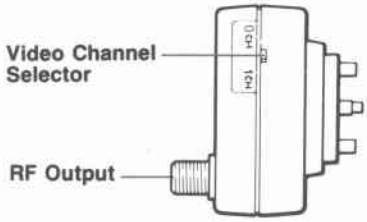
Video Channel Selector
Set to channel reserved for video in your area (channel 30-39 selectable).

RF Output

European Model



Australian Model



Connections (See connection chart on p.23)

1	Attach power supply and RU-E3 RF Unit to camera. Leave camera off.
2	Connect RF output to VTR terminal of antenna selector using provided coaxial cable with DIN connectors.
3	Remove aerial cable from TV and connect it to ANT. terminal of antenna selector.
4	Connect TV terminal of antenna selector to aerial input of TV using coaxial cable with DIN connectors.

Setting the Video Channel (European model)

The RU-E3 is shipped from the factory with the video channel selector set to channel 32.

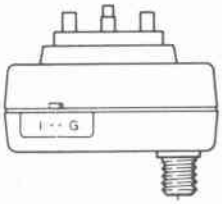
1. **Connect RU-E3 to camera and TV.**
2. **Press camera's operate button to turn camera on and start playback.**
3. **Turn TV on.**
4. **Set I/G selector: I is for U.K, South Africa, Hong Kong; G is for Continental European countries.**
5. **Tune TV to channel 32 and adjust it until playback picture appears clearly on screen.**

To set video channel to a position other than 32 (30-39 selectable), position 36 in U.K. for example: Follow steps 1-5 above. Tune TV to channel 36. Then turn RU-E3's video channel selector with a flat-edge screwdriver until playback picture appears clearly on screen again.

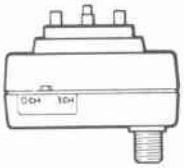
Switch Settings

RU-E3

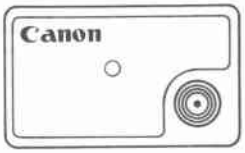
(European model)
I/G selector: Set according to TV system



(Australian model)
Video channel selector: To video channel

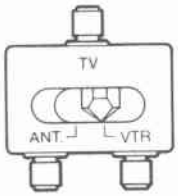


(European model)

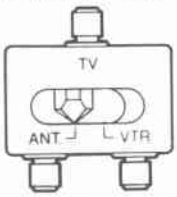


Antenna Selector

For Playback: VTR



For Regular TV Viewing: ANT.



Playback Procedure

1 **Turn on TV.**

2 **Set TV to video channel or video screen.**

- When using a TV without audio/video inputs set TV channel and RF Unit to video channel.
- When using a TV with audio/video inputs set TV's TV/VIDEO selector to VIDEO.

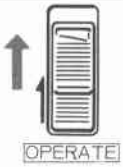
3 **Press EJECT button.**

- Video cassette compartment opens.

4 **Load video cassette in camera and close video cassette compartment.**

5 **Turn camera on.**

- Camera will go into stop mode if erasure prevention switch on video cassette is in non-recordable position.



You must complete step 6 to commence playback.

6 **Press STOP button.**

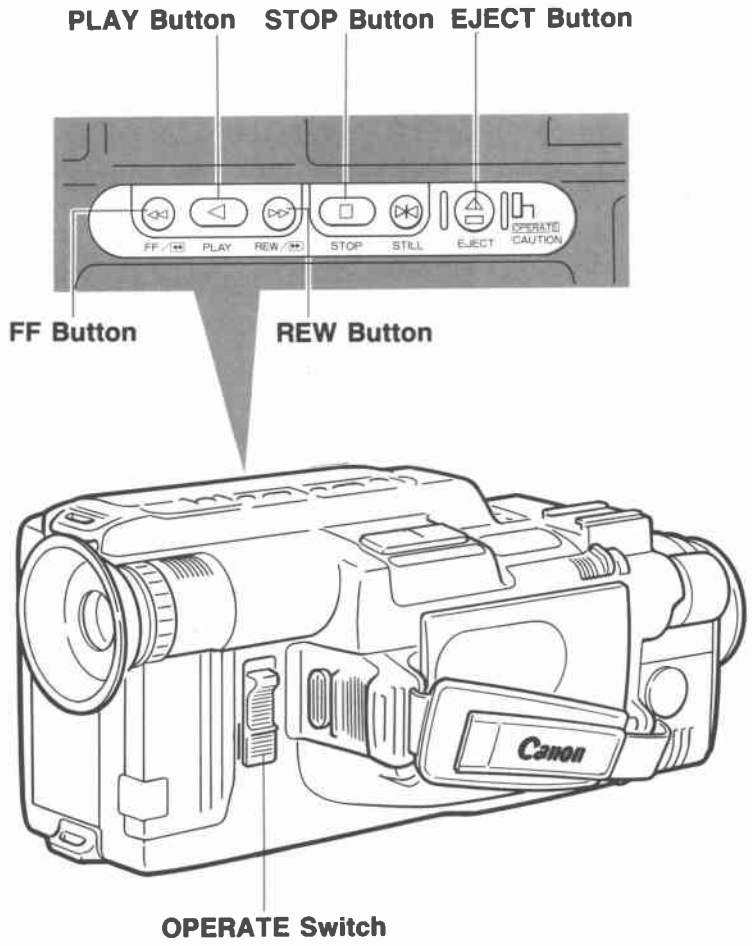
- Playback functions will not operate if you haven't pressed STOP button.

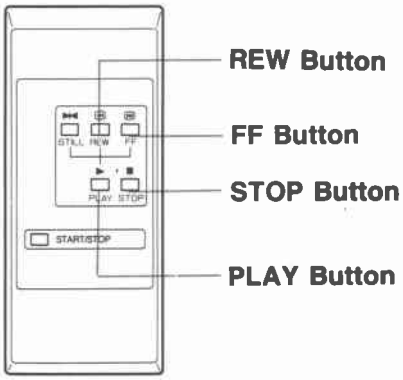
7 **Press PLAY button to start playback.**

- Use FF or REW buttons to locate playback start point.
- Tape speed is selected automatically.

8 **Press STOP button to end playback.**

- Playback is also displayed in the viewfinder.


PLAY Button
STOP Button
EJECT Button
FF Button
REW Button
OPERATE Switch
FF / ⏩
PLAY
REW / ⏪
STOP
STILL
EJECT
OPERATE
CAUTION
Canon


REW Button
FF Button
STOP Button
PLAY Button
STILL
REW
FF
PLAY
STOP
START/STOP

Special Playback Methods

In addition to normal playback, your camera also has fast forward, rewind and still playback. Playback is controlled by pressing buttons on the camera or by using the wireless controller.

Fast Forward Playback

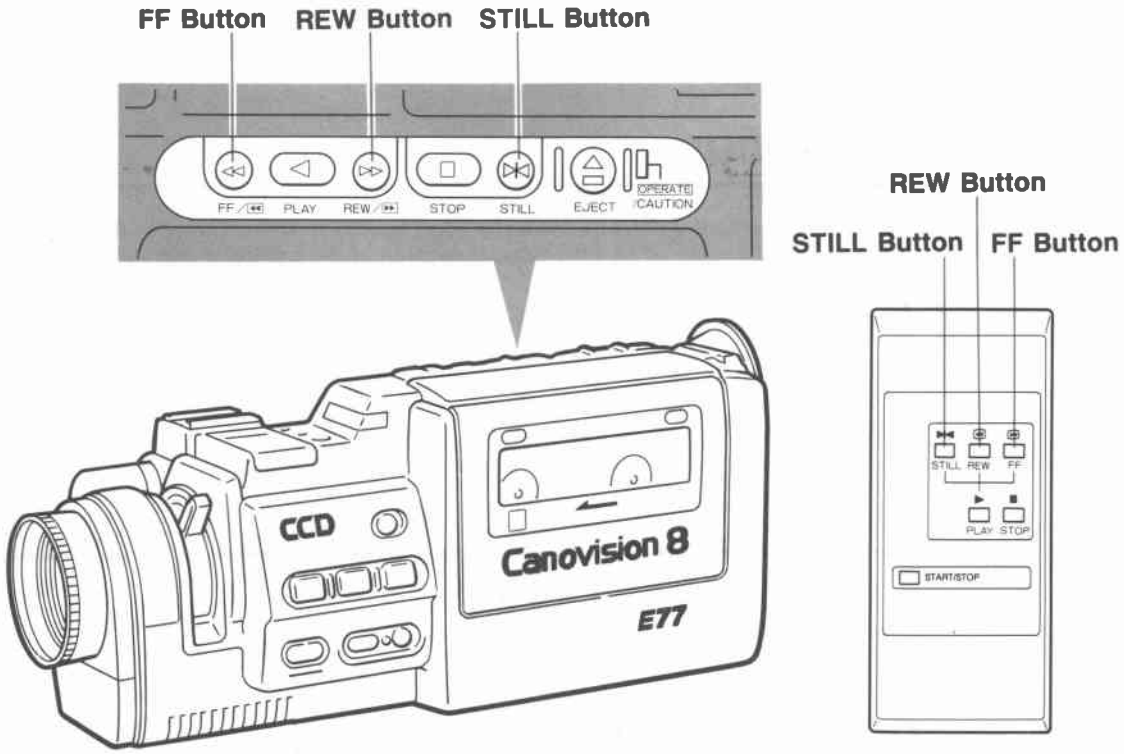
Press and hold FF button during normal playback mode. Release FF button to return to initial mode.

Rewind Playback

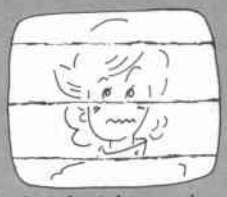
Press and hold REW button during normal playback mode. Release REW button to return to initial mode.

Still Playback

Press STILL button during normal playback to pause the picture.
Press STILL button again or PLAY button to resume normal playback.



Notes:



During fast forward and rewind modes

During still playback

- Several noise bars appear during fast forward/search and rewind/review.
- Random noise occurs during still playback.
- Audio portion of tape cannot be heard during special playback.
- The camera automatically goes into stop mode after more than seven minutes of continuous still playback.
- The picture flickers a little during still playback.
- Feedback may occur when using the camera near a TV that is turned on. To avoid this, either lower TV volume or remove camera's mic.
- Notes about special playback of tapes recorded in SP:
  (1) The still playback picture will contain much more noise than for tape recorded in LP.
  (2) During fast forward or rewind playback, noise bars will be much wider than for a tape recorded in LP.
  (3) Certain TVs may show the special playback picture in black-and-white, or the picture may roll or divide.

Focusing

Two focusing systems are available to suit your needs: autofocus and manual focus. The camera usually operates in autofocus, but you may want to use manual focus for certain conditions.

Autofocus

The camera enters autofocus mode as soon as you turn the camera on. Focus adjusts automatically to suit the subject located in the centre of the viewfinder.

- When shooting bright subjects outdoors during daytime, the lens aperture is small, so accurate focus is easily achieved. However, if conditions are cloudy or if you are shooting dark subjects (night scenes, etc.), use manual focusing.
- If the camera is near other products that use infrared beams (e.g. wireless controller for the VTR), autofocus may malfunction.

Notes:

- Manual focus clears when the camera is turned off.
- Be sure not to obscure autofocus window with your hand, fingers, etc. during recording.
- Do not touch focusing ring during autofocus.
- Aim camera so that the subject is centred in viewfinder during autofocus use.
- The autofocus mechanism focuses subjects at a distance of up to approximately nine metres. For more distant subjects, focus locks at infinity.

To keep your subject in focus regardless of its position in the viewfinder:

First frame subject in centre of viewfinder and let autofocus determine proper focusing. Press AF/MANUAL button to lock focusing. Then frame subject in viewfinder as desired, maintaining the same distance from the subject.

Subjects Not Suitable for Autofocus

Autofocus may not work well in the following instances, and manual focus will probably give you better results:

- Subjects with very glossy or shiny surfaces (e.g. car exteriors)

- Subjects with little or no reflection (e.g. dark clothes, dark hair, water surface)

- Scenes that cause a strong contrast between right and left halves of the screen

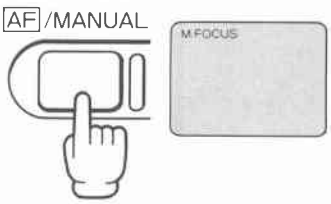
- Partially obscured subjects such as caged animals.

- Subject behind glass

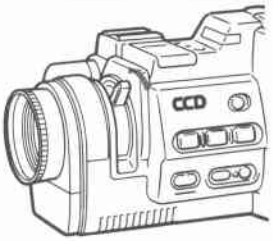
Manual Focus

Use manual focus when you shoot subjects not suitable for autofocus.

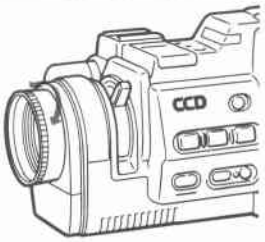
1 **Press AF/MANUAL button.**



2 **Rotate zooming lever to telephoto end (54mm).**

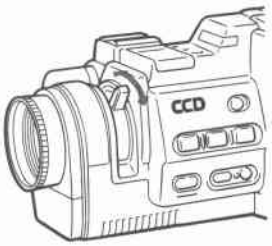


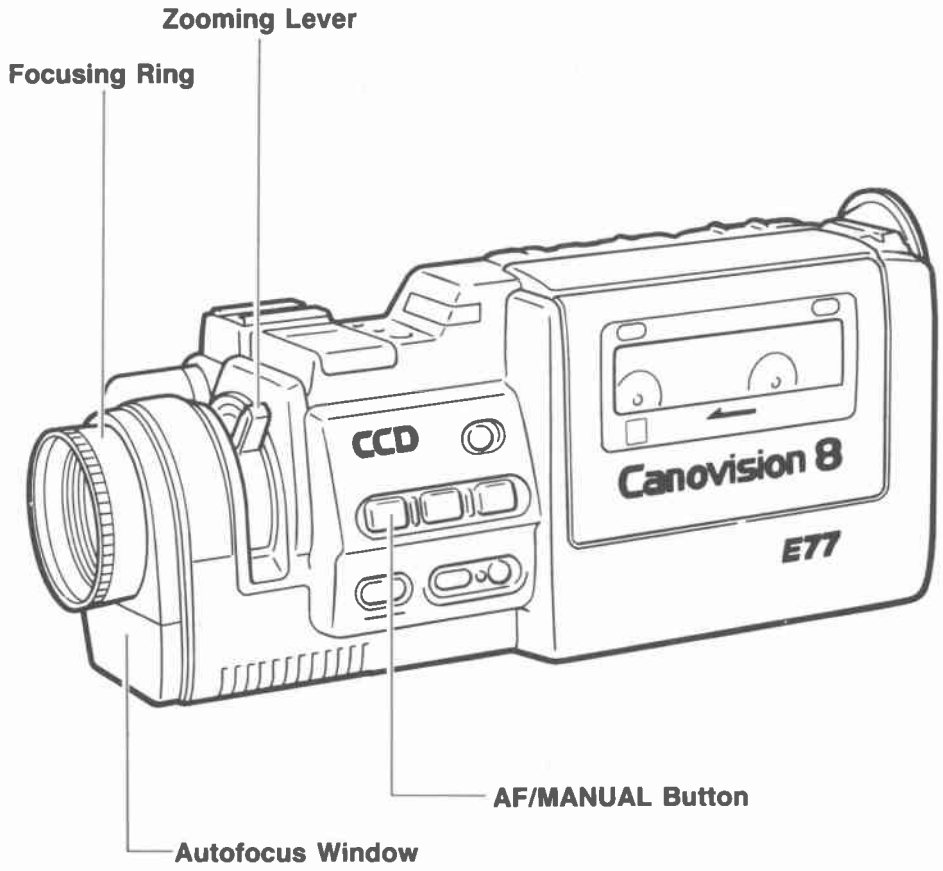
3 **Watch through viewfinder and rotate focusing ring to focus on subject.**



4 **Use zooming lever to frame subject properly.**

- Camera automatically returns to autofocus when camera is turned off or placed in playback mode.
- Press AF/MANUAL button to stop manual focus and return to autofocus.




Zooming Lever
Focusing Ring
CCD
Canovision 8
E77
AF/MANUAL Button
Autofocus Window

White Balance

White balance is the adjustment made to make white subjects look white and to obtain a natural colour balance for recordings. The camera has two systems for white balance adjustment: auto and lock.

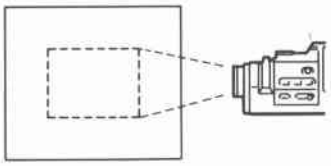
Auto White Balance

Auto white balance is set automatically when camera is turned on to make white balance adjustment for normal indoor and outdoor conditions.

White Balance Lock

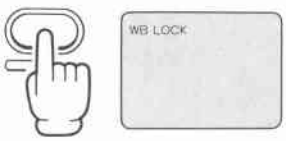
Use white balance lock when you shoot subjects not suitable for auto white balance.

1 **Point camera lens at a white object such as a sheet of paper so that it completely fills viewfinder.**



- Set zooming lever to telephoto end (54 mm).
- Be sure sufficient lighting is available.
- There is no need for focusing.

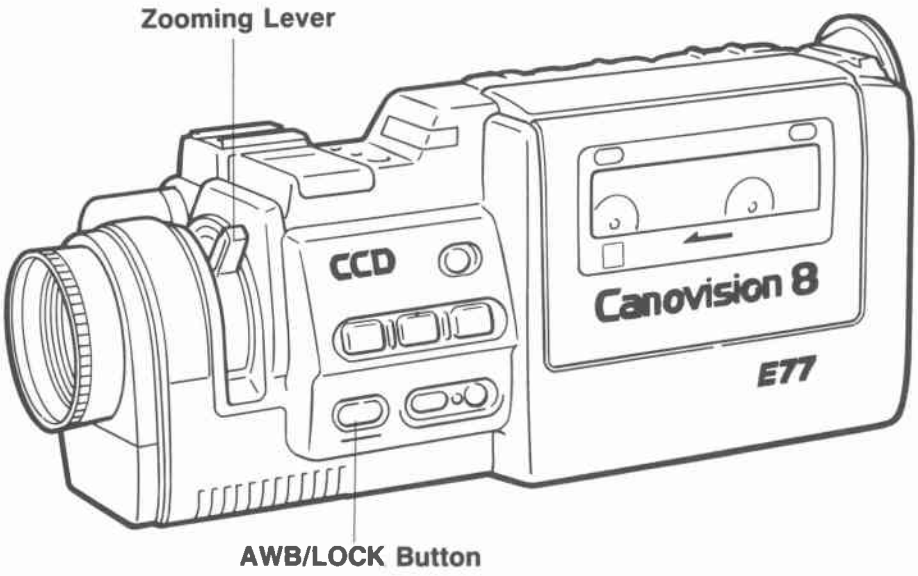
2 **Press AWB/LOCK button.**



3 **Make your recording.**

4 **Press AWB/LOCK button again to reset auto white balance.**

- "WB LOCK" display disappears from viewfinder.



Subjects Not Suitable for Auto White Balance

Auto white balance may not work well in the following instances, and white balance lock will probably give you better results:

- Subject with one dominant colour, such as sky, sea and forest.
- Subject for a macro recording, such as a close-up of a flower.

Use white balance lock to allow for such conditions.

- White balance lock also works without using a white object. Set the zooming lever to wide angle end (9 mm) and press AWB/LOCK button to adjust for the scene. However this is not suitable for scenes with one dominant colour or for macro recording.
- For best results when shooting sunsets and other scenes with red colouring, adjust the camera by pointing at a blue object and pressing AWB/LOCK button.

Notes:

- White balance lock clears automatically when playback is activated or the camera is turned off.
- Reset white balance again if the light source changes during white balance lock.
- Use white balance lock even under normal lighting conditions to achieve a more precise colour balance.

Fade

Fade effect allows you to make scenes gradually disappear or reappear in smooth transition.

Fade In Scene gradually appears, fading from a blank white screen.

1 **Place camera in record pause mode.**

2 **Press and hold FADE button until scene disappears completely from viewfinder.**

3 **Press START/STOP button to start recording and then release FADE button.**

- Scene gradually fades in.

Fade Out Scene gradually disappears, fading to a blank white screen.

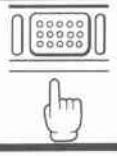
1 **Press and hold FADE button during recording.**

- Picture gradually fades out.

2 **Press START/STOP button when scene has disappeared completely.**

- Camera goes into record pause mode.

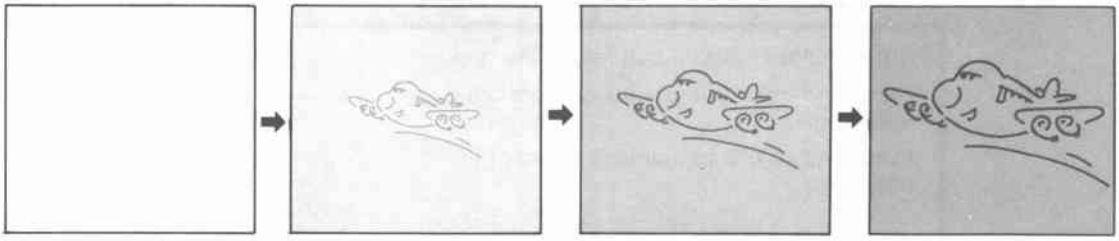
3 **Release FADE button.**



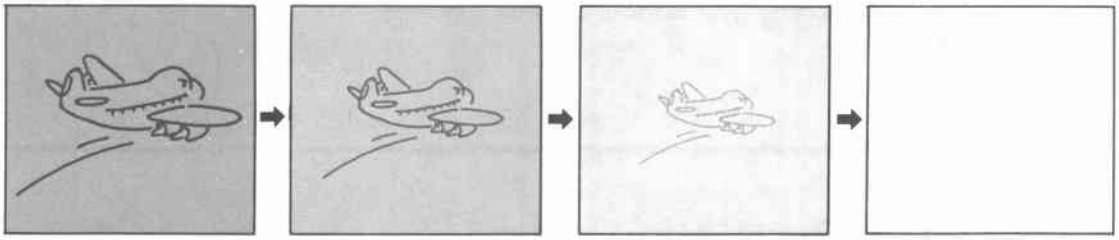
Notes:

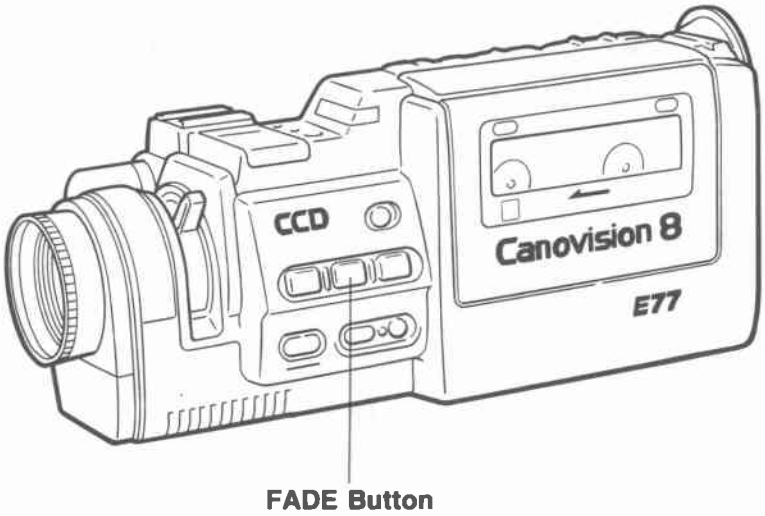
- Sound fades along with the image.
- Date and time do not fade.

Fade In



Fade Out





Zooming

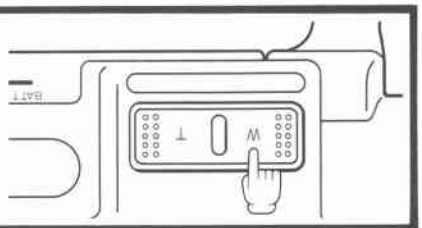
Zoom in on hard-to-catch subjects or add close-up personal touches to your recordings. Zoom out to reveal a breathtaking view. The camera has two zooming methods: power zoom and manual zoom.

Power Zoom

Press POWER ZOOM buttons on the grip.

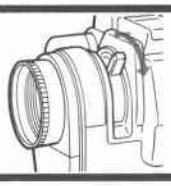
Press and hold W to gradually zoom out to wide angle.

Press and hold T to gradually zoom in to telephoto.



Manual Zoom

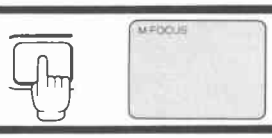
Turn zooming lever to rotate zooming ring.



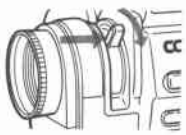
Macro Recording

Macro recording allows you to record small subjects such as flowers and insects close-up to full screen and achieve extremely fine detail in your pictures.

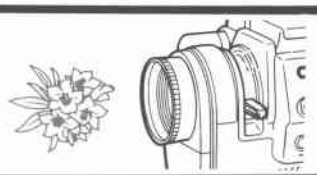
1 **Press AF/MANUAL button to select manual focus.**



2 **Press and hold down macro button on zooming lever and move lever into macro range.**

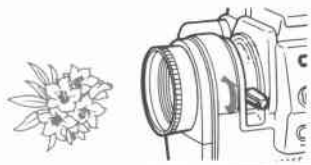


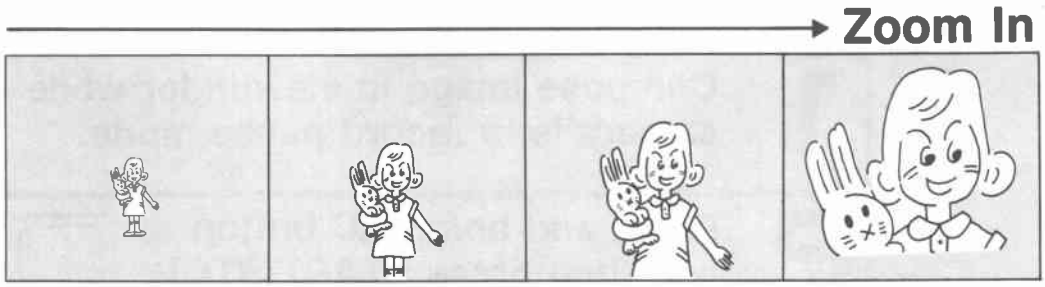
3 **Approach subject.**



4 **Use zooming lever within macro range for fine focusing.**

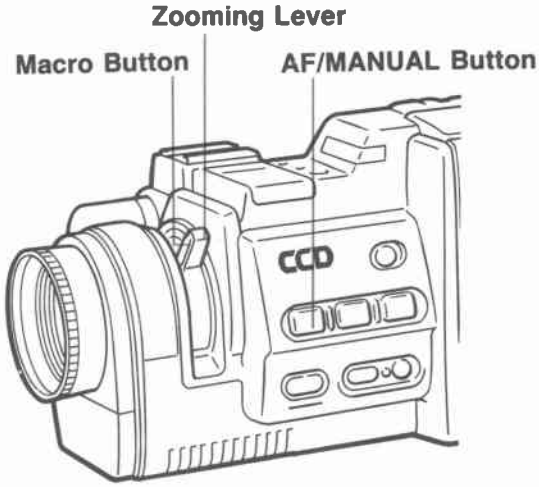
- Zooming lever moves only within macro range.





Notes:

- Even the slightest hand movement will appear in the recording when shooting in the telephoto range. Use a tripod for better results.
- Overuse of zooming may make recordings seems too busy. Selective use of zooming is more effective.



Notes:

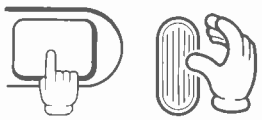
- Move camera forward or backward slightly to change subject image size and then fine focus again.
- A tripod is recommended for better recording stability.
- Be sure there is adequate lighting.

Backlight Compensation

Backlight compensation allows you to adjust exposure before shooting a backlit subject, such as one with sun or an open window behind it. Use backlight compensation if subject appears dark in the viewfinder.

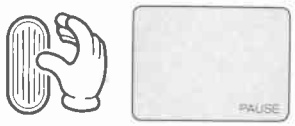
1 **Compose image in viewfinder while camera is in record pause mode.**

2 **Press and hold BLC button and then press START/STOP button to begin recording.**



3 **Press START/STOP button again after recording.**

- Camera goes into record pause mode.



4 **Release BLC button.**

High Speed Shutter

The 1/1000 high speed shutter allows you to record sports and other fast-action scenes. The normal camera setting is 1/50th of a second.

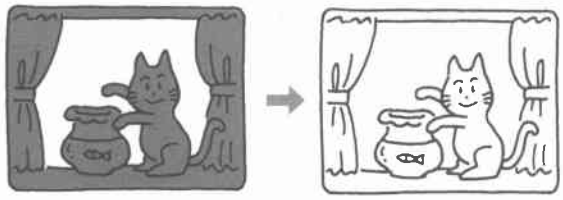
1 **Point camera at subject and compose scene in viewfinder.**

2 **Press 1/1000 button.**

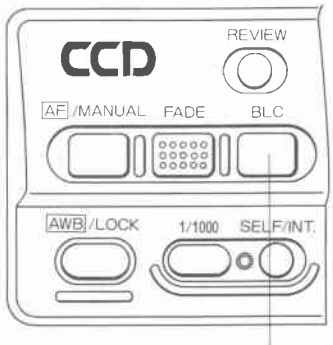
3 **Make your recording.**

4 **Press 1/1000 button again to reset normal speed.**

- 1/1000 speed display disappears from viewfinder.



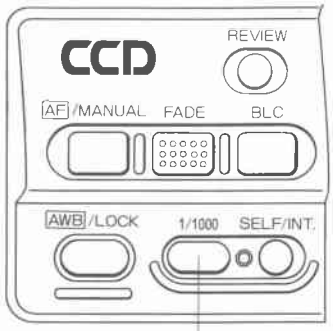
Before pressing BLC button After pressing BLC button



BLC Button

Notes:

- Do not change image composition once BLC button is pressed.
- Release BLC button at any time to cancel backlight compensation.
- A little backlight does not require backlight compensation and may result in overexposure if BLC button is pressed. Be sure subjects appear dark in the viewfinder before using the backlight compensation function.



1/1000 Button

Notes:

- The high speed shutter does not work well in dim lighting or under fluorescent lights. Use this function outdoors with bright light or provide additional lighting.
- Scenes shot with a high speed shutter will appear somewhat blurred during normal playback.
- A scene shot with high speed shutter works best with special playback. Use a VTR capable of noise-free special playback for best results.
- If the camera is turned off and on again, shutter setting automatically returns to normal (1/50).

Self Timer Recording

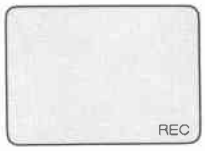
Set the self timer and the camera will automatically start recording after an approximately 10 second standby period, letting you get in on the action.

1 **Place camera in record pause mode.**

2 **Press SELF/INT. timer button once.**

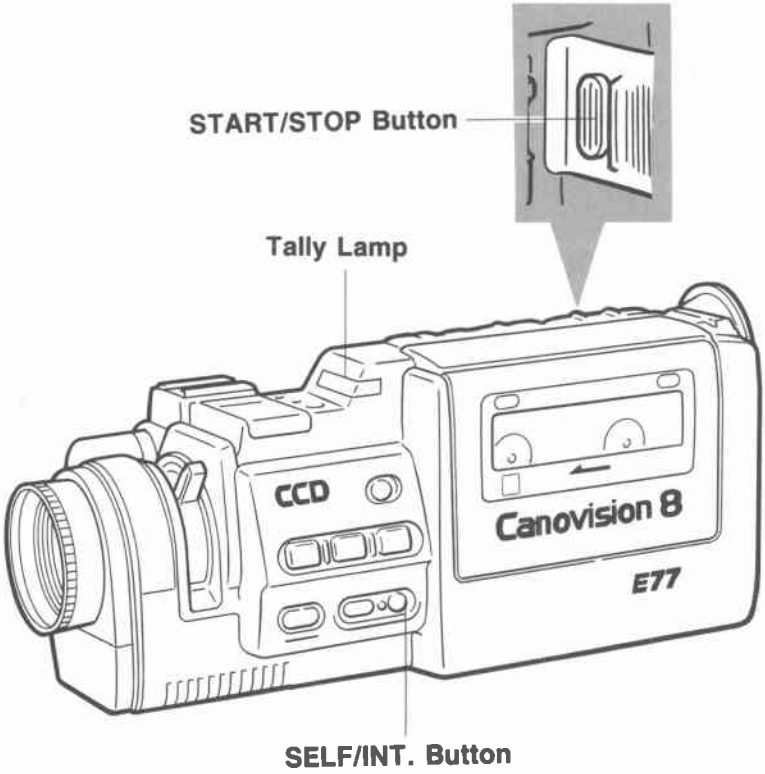
3 **Press START/STOP button.**

- Timer countdown 9 through 1 appears in viewfinder (tally lamp flashes slowly).
- Recording starts automatically after countdown (tally lamp flashes rapidly).
- Press START/STOP button again to end.



Note:

- Press START/STOP button to cancel self timer before countdown reaches one.

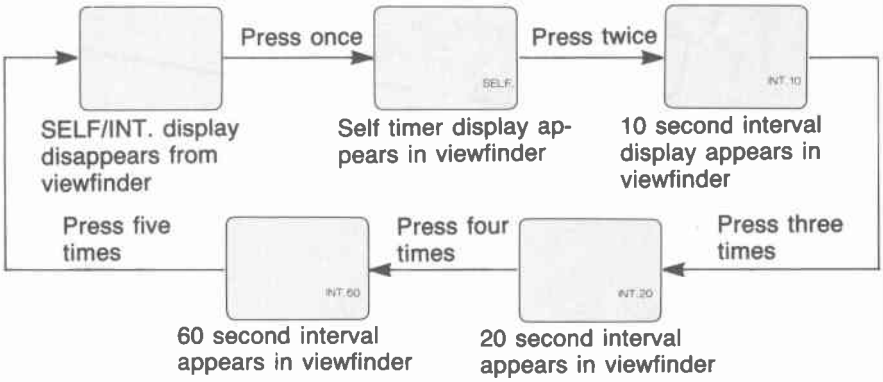

START/STOP Button
Tally Lamp
CCD
Canovision 8
E77
SELF/INT. Button

Interval Timer Recording

Interval timer sets the camera to record for about 0.5 seconds each time a fixed interval passes. This allows you to record the changes in scenes like sunsets and flowers blooming. You can choose from intervals of 10 seconds, 20 seconds or 60 seconds.

1 Place camera in record pause mode.

2 Press SELF/INT. timer button and select time interval.

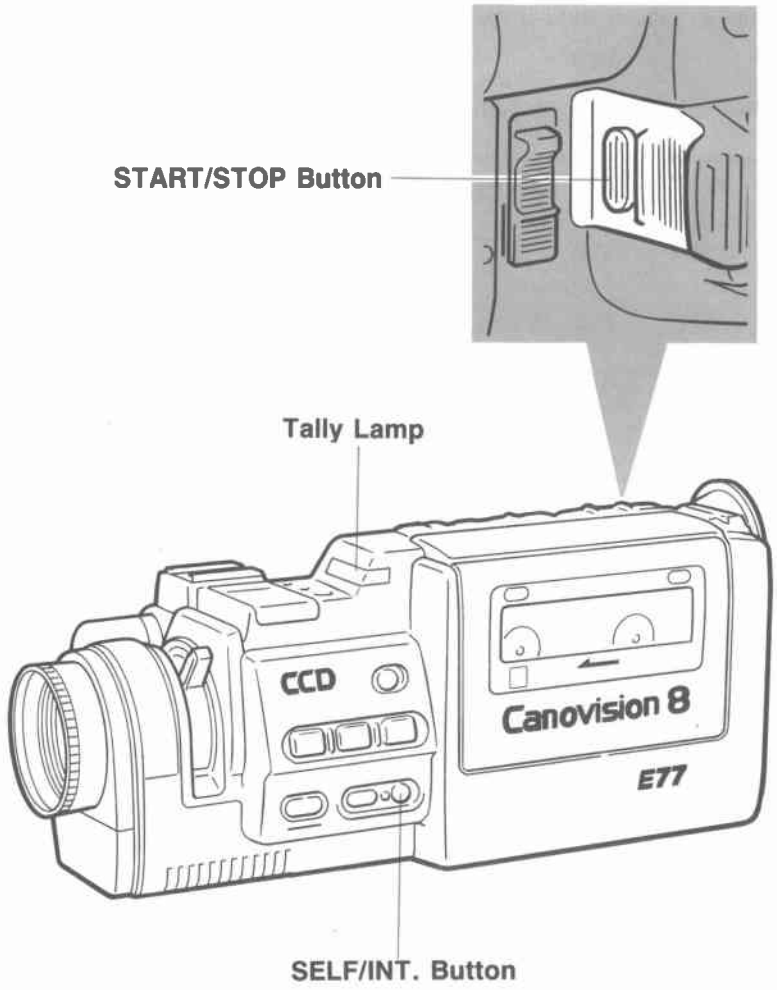


To return the camera to normal operation mode, press SELF/INT. button five times in total, until all SELF/INT. displays disappear from the viewfinder.

3 Press START/STOP button to start recording.

- After each interval the camera records for approximately 0.5 seconds.

4 Press START/STOP button again to cancel interval timer.



Notes:

- Tally lamp flashes slowly during interval timer recording.
- Press SELF/INT. button until viewfinder display disappears to cancel interval timing before recording begins.
- The camera will automatically turn off after about six hours of interval operation in order to protect camera parts from damage.
- Noise occasionally may occur at intervals.
- Use only SP mode for interval timer function.

Auto Date and Time

The camera stores date and time settings which you can superimpose over your recordings.

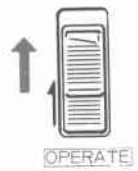
Setting Date and Time

Set date and time when you first begin using the camera or you change the lithium battery without back-up power.

Example: Set to 2:35 p.m., July eighth in 1989.
You must complete all of steps one through twelve to set the autodate function.

1 Turn camera on.

- OPERATE/CAUTION indicator lights up.
- If a video cassette is loaded, press STOP button.



2 Press SHIFT button gently with a pen or similar narrow object.

- Date and time are displayed in viewfinder.
- Year display (1988) flashes in viewfinder.

3 Press SET button to scan year display.

- Press once to scan one at a time.
- Press and hold to scan quickly.

→1988 → 1989 → ·····2005 → 2006 → 2007

4 Press SHIFT button when correct year is shown.

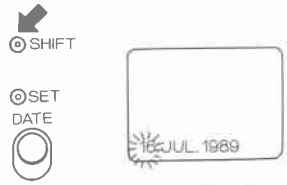
- Year is set and month display (JAN) flashes.

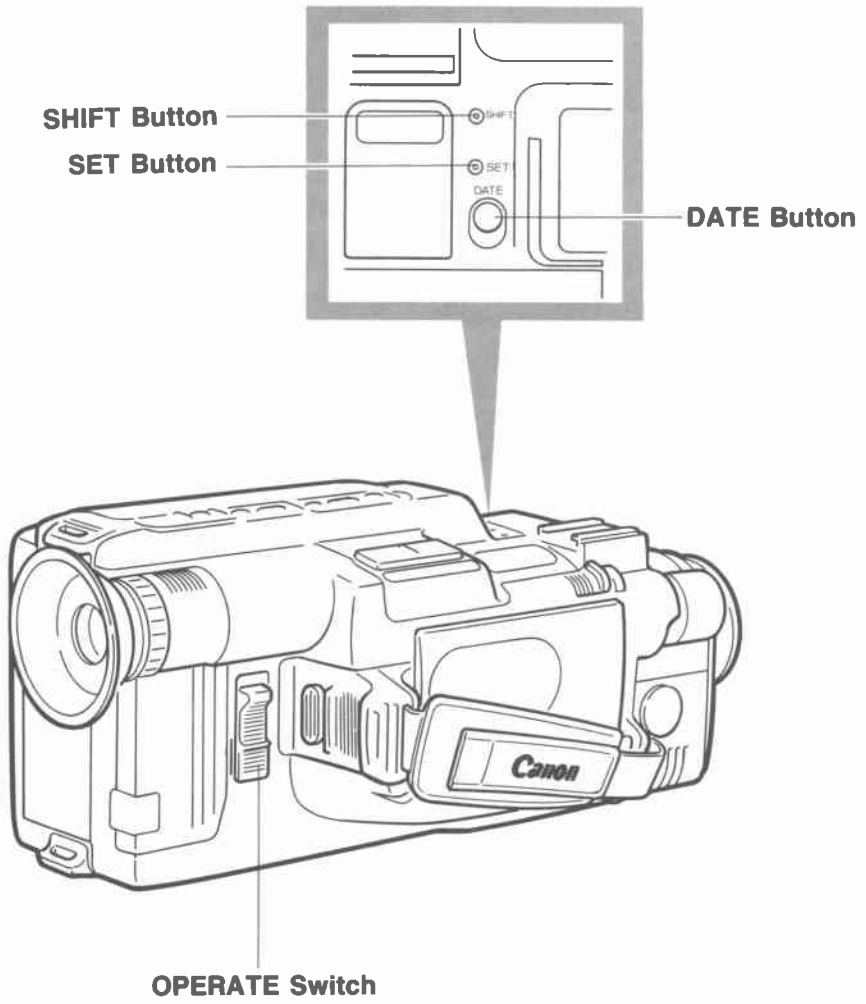
5 Press SET button to scan month display.

→JAN → FEB →·····SEP →·····NOV → DEC

6 Press SHIFT button when correct month is shown.

- Month is set and day display (16) flashes.




SHIFT Button
SET Button
DATE Button
OPERATE Switch
SHIFT
SET
DATE
Canon

7 Press SET button to scan day display.

→1 → 2 → 3 →·····28 → 29 → 30 → 31→

8 Press SHIFT button when correct day is shown.

- Day is set and hour-minute display appears in viewfinder.
- Hour display flashes.

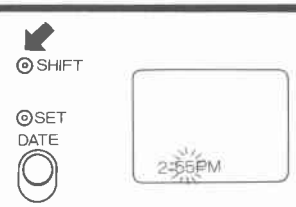
9 Press SET button to scan hour display.

- Hour display rotates through 24 hours.

→12AM → 1AM →·····12PM → 1PM···11PM→

10 Press SHIFT button when correct hour is shown.

- Hour is set and minute display flashes.

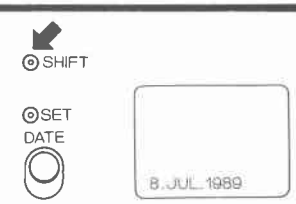


11 Press SET button to scan minute display.

→01→ 02→ 03→·····57 → 58 → 59 → 00→

12 Press SHIFT button when correct minute is shown.

- Date and time settings are stored in camera memory.

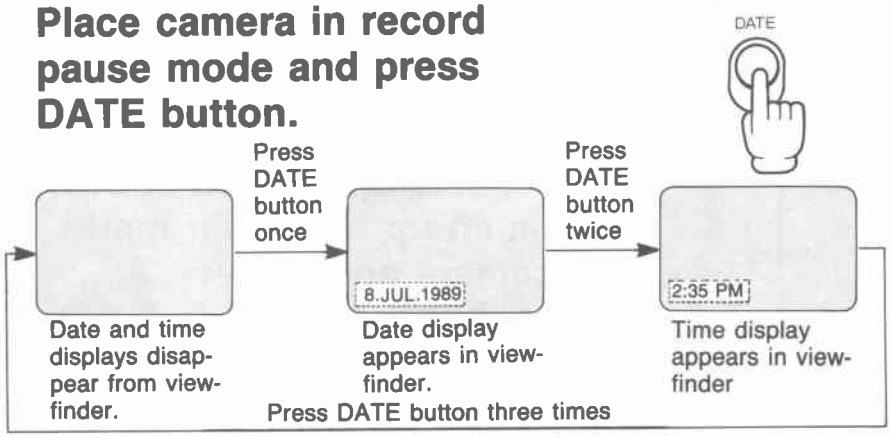


Notes:

- If you make a mistake in setting, start again from step one.
- To make a partial change, repeat steps one through twelve.
- If the camera is turned off during setting, the camera will not remember the settings.

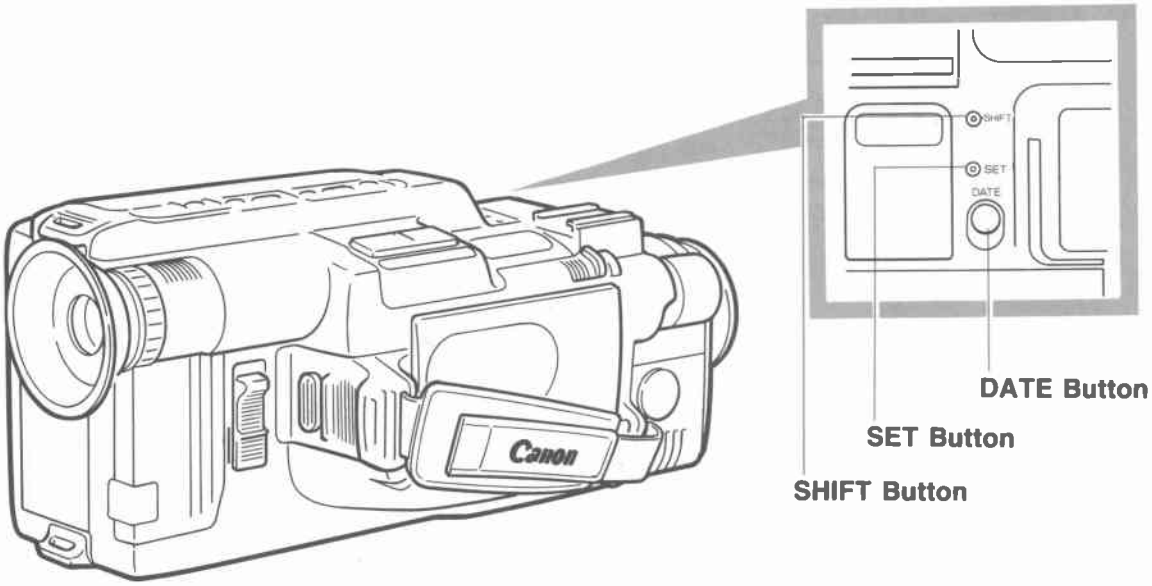
Recording Date and Time

1 Place camera in record pause mode and press DATE button.



2 Make your recording as normal.

- Date or time is recorded with scene.



Notes:

- When lithium battery is nearly or completely exhaused "E" appears in viewfinder. If you record while this message is displayed, "E" will be superimposed over your recording. Change battery first (See p.13).
- If you press SHIFT button during recording the camera will enter autodate setting mode and this will be recorded over your scene.

Microphone

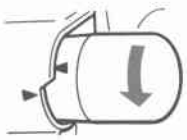
Optional external microphones may be used in place of regular microphone (see p.56).

Attaching and Removing Microphone

Removing Microphone

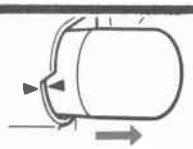
1 **Rotate microphone as shown to match up triangular marks on camera and camera microphone.**

- Handle microphone by the base only and not by the foam tip.



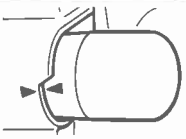
2 **Remove camera microphone.**

- Remove camera microphone when silent recording is desired.

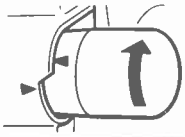


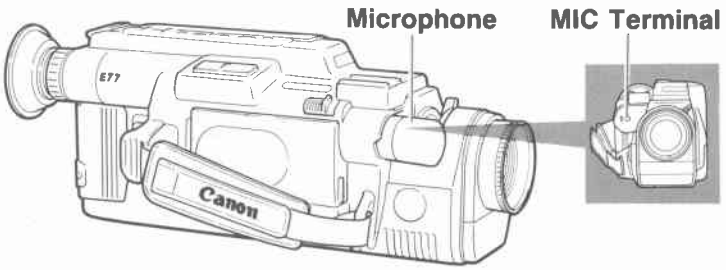
Attaching Microphone

1 **Align triangular marks on camera and microphone and press gently into microphone terminal.**



2 **Rotate microphone as shown to lock in place.**





Angle Finder

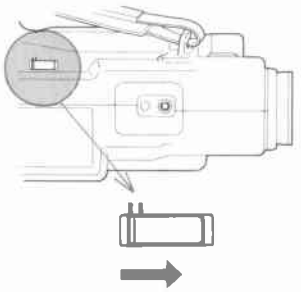
Use the optional Angle Finder LF-E7 to record objects at a low angle.

1 **Slide and hold FINDER RELEASE switch in direction of arrow and remove viewfinder.**

2 **Attach angle finder.**

3 **Set image invert switch to ANGLE FINDER position.**

- Tape has been placed over the image invert switch for protection during packaging. When using the image invert switch for the first time, peel off protective tape.



4 **Turn camera on, press START/STOP button and begin recording as normal.**

- Open eyecup for easier viewing and viewing from a distance.
- Follow focusing procedure described on p.14.

Notes:

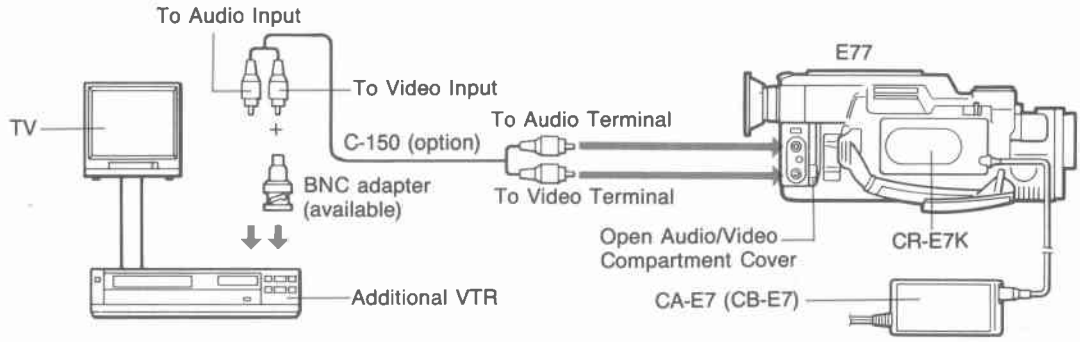
- Your view will be obscured unless image invert switch is set properly.
- The RS-E7 Rain Shield cannot be attached when angle finder is in use.
- Be sure to set image invert switch back to normal when reattaching camera finder.

Editing to Another VTR

Your camera can also be used as a playback VTR to edit your recording with the help of a second VTR.

Connection Procedure

• You need the camera, CR-E7K Charge Coupler, CA-E7 Compact Power Adapter (or CB-E7 Car Battery Adapter) and C-150 AV Cable (option) for recording.



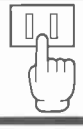
Editing Procedure

1 **On camera, locate point on video cassette slightly ahead of editing start point (scene to record).**

2 **Press STILL button on camera.**

• Camera enters still playback mode.

3 **Place second VTR in record pause mode.**



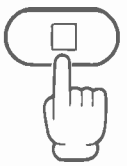
4 **Press PLAY button on camera.**

• You can check playback picture on TV.

5 **Release pause on VTR when record scene appears.**

• Playback is recorded on second VTR.

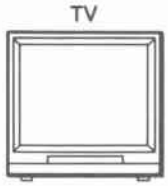
6 **Press STOP buttons on camera and second VTR to end editing.**



Preparations

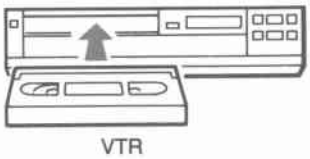
TV

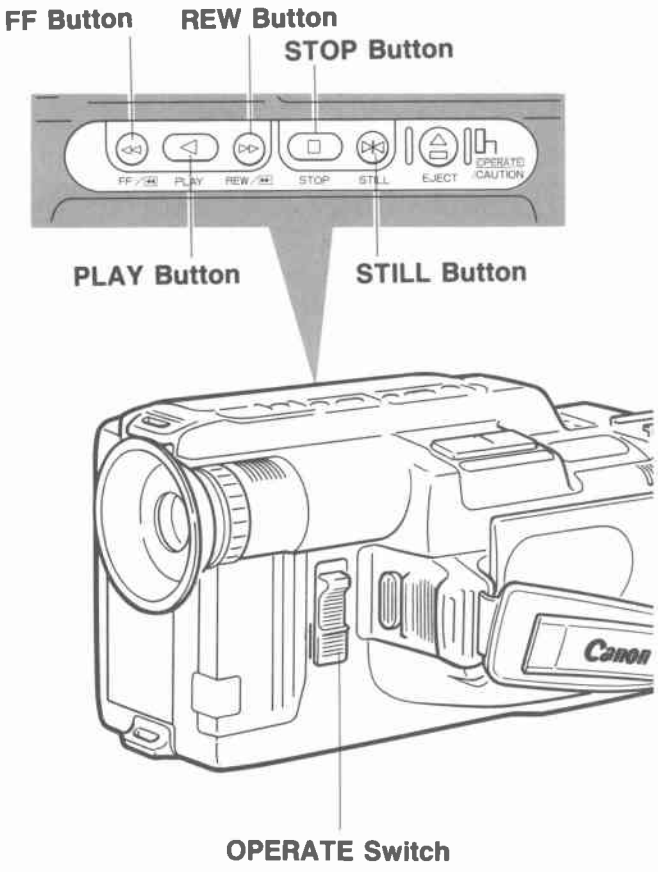
Turn TV on and set TV to video channel or set TV/VIDEO selector to VIDEO.

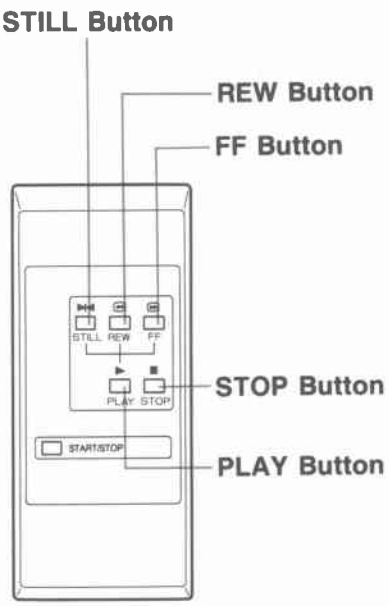


VTR

Turn on second VTR and load a recordable video cassette. See VTR instruction manual for details.



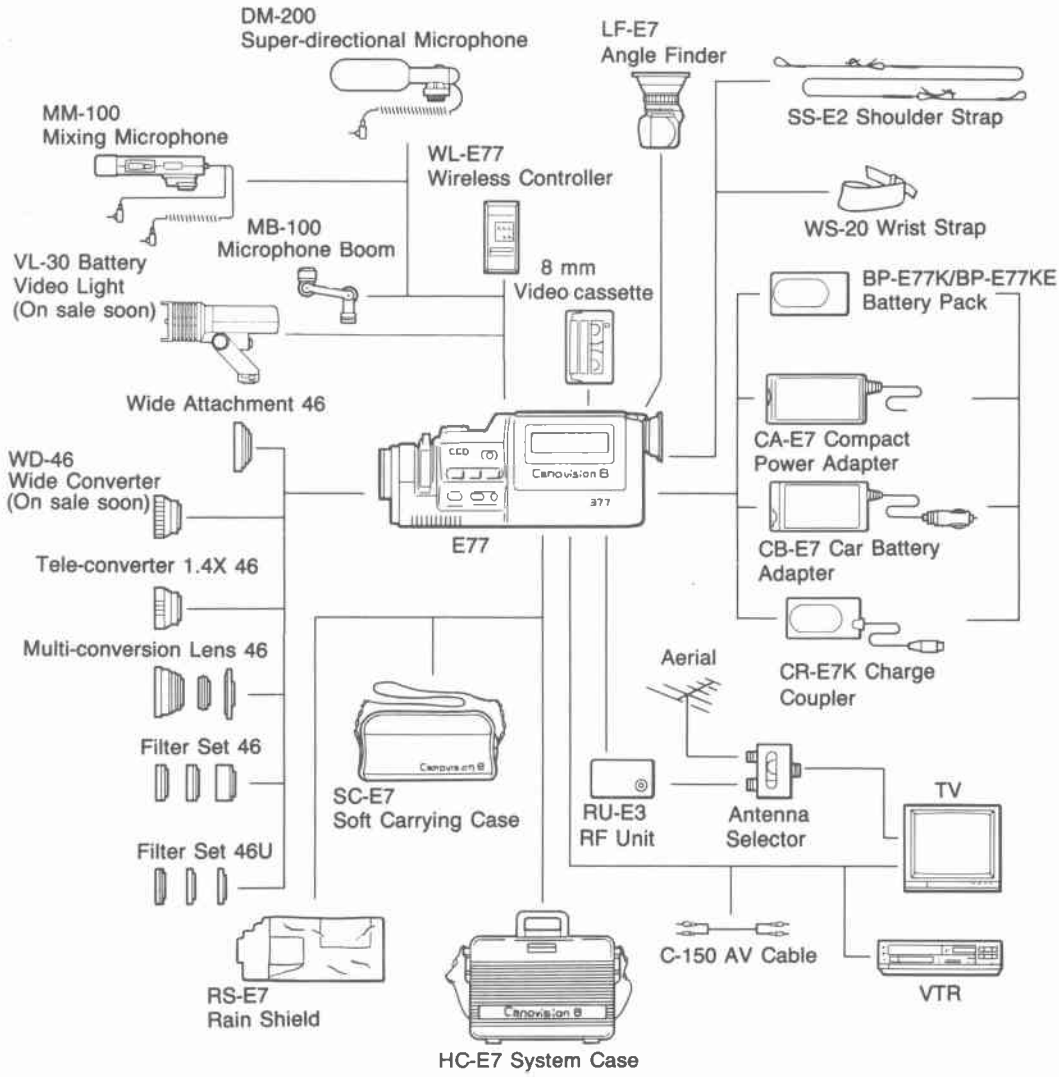




Note:

- Both image and sound quality of edited tape will be somewhat less than that of the original.

Canon E77 Video System Chart



SC-E7 Soft Carrying Case

The optional SC-E7 Soft Carrying Case provides lightweight protection for the camera.

The SC-E7 can hold the following:

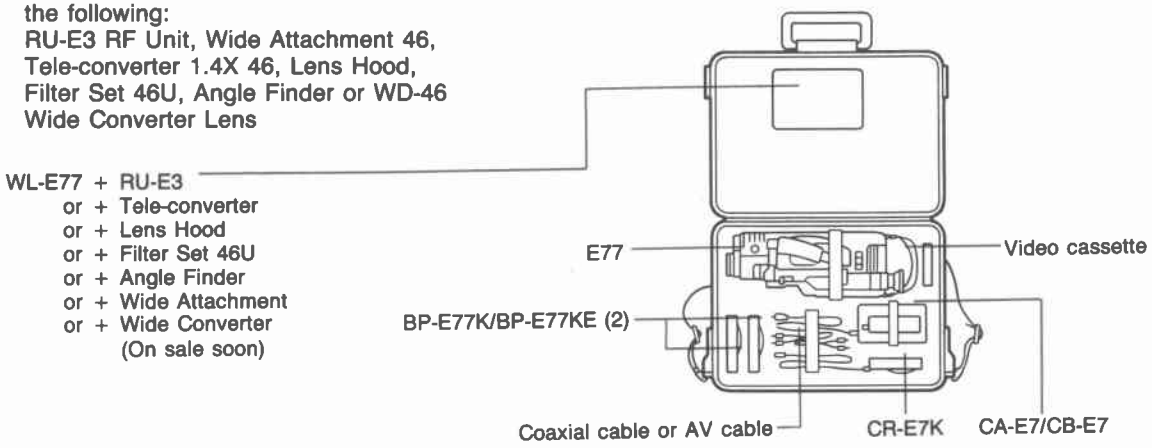
- E77 camera with Battery Pack and video cassette attached.
- Two BP-E77K or BP-E77KE Battery Packs.
- One 8 mm video cassette.

HC-E7 System Case

The optional HC-E7 System Case safely stores and helps protect the camera and its accessories during transportation and storage.

The HC-E7 properly stores the following items:

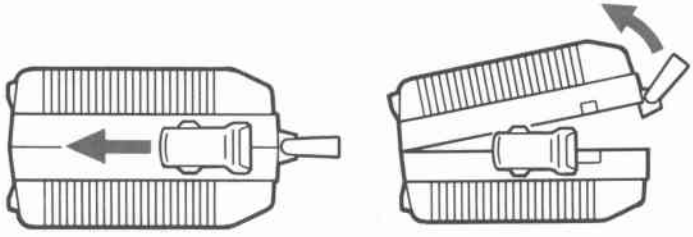
- Camera with Battery Pack, video cassette, shoulder strap/wrist strap.
- CA-E7 Compact Power Adapter or CB-E7 Car Battery Adapter
- CR-E7K Charge Coupler
- Two BP-E77K or BP-E77KE Battery Packs
- One 8 mm video cassette
- Coaxial cable or C-150 AV cable
- WL-E77 Wireless Controller with one of the following:
  RU-E3 RF Unit, Wide Attachment 46, Tele-converter 1.4X 46, Lens Hood, Filter Set 46U, Angle Finder or WD-46 Wide Converter Lens



Opening the Case

Slide the latches on both sides of the case downward and lift handle to open.

- Open case with "UP" sticker pointing upward.



Notes:

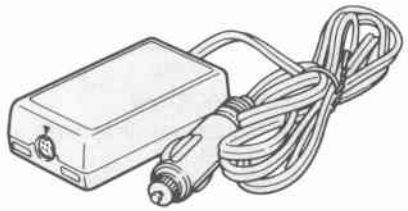
- Do not leave case in areas of extreme heat.
- Do not expose case to strong vibrations or shock.
- Do not place heavy objects on top of case.
- Two keys are provided with the HC-E7 System Case.

Optional Accessories

CB-E7 Car Battery Adapter

For Recording Using Car Battery

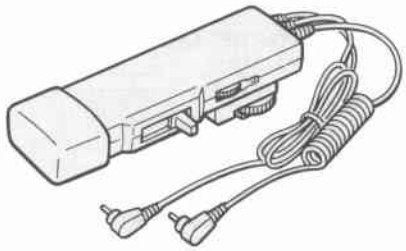
Plug into cigarette lighter socket.
For use only with 12 or 24V DC negative-ground car battery.



External Microphones

MM-100 Mixing Microphone

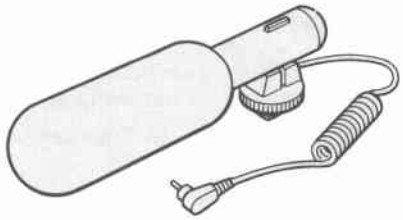
The optional mixing microphone lets you record background music and sound effects from a headphone stereo.



DM-200 Super-directional Microphone

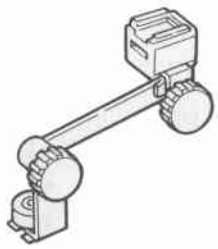
The optional super-directional microphone allows recording of distant or localized sounds with sensitivity four times better than conventional microphones.

- Recording level cannot be adjusted.



MB-100 Microphone Boom

The optional microphone boom allows you to raise the microphone away from unwanted camera noise when recording at quiet locations.



Lenses and Filters

Tele-converter 1.4X 46

The optional Tele-converter is a magnification converter lens that increases the focal length of the camera lens by a factor of 1.4. You can use camera's zoom function with this lens attached.

WD-46 Wide Converter

The optional Wide Converter increases the focal length by a factor of approximately 0.7. You can use camera's zoom function with this lens attached.
(On sale soon)

Wide Attachment 46

The optional Wide Attachment increases the focal length by a factor of approximately 0.7.

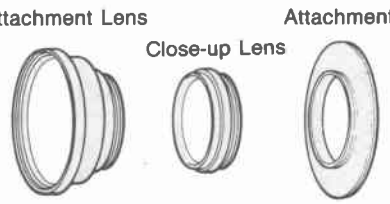
Filter Set 46 and 46U

The optional Filter Set 46 contains three filters: Multiple Image Filter 5X, R-Cross Filter 6X and Zoom-spot filter.

The optional Filter Set 46U contains three filters: UV, ND8 and circular PL.

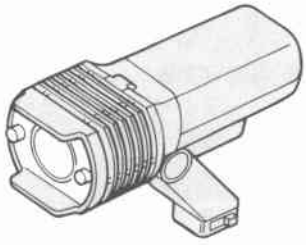
Multi-conversion Lens 46

The optional Multi-conversion Lens set includes: a wide attachment lens, close-up lens and attachment ring.



Battery Video Light VL-30

The optional Battery Video Light provides extra lighting for indoor shooting. (On sale soon)



Problems and Trouble Shooting

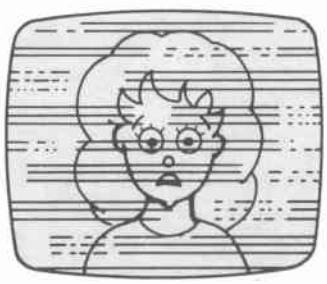
Use the following checklist for trouble shooting when you have problems with your camera. Consult your local dealer or service outlet if problems persist.
Be sure all connections are properly made when using the camera with other units.

Problem	Cause	Remedy
Camera does not turn on.	Battery Pack charge is low.	Replace with a fully charged Battery Pack.
Camera turns off during operation.	Battery Pack charge is low.	Replace with fully charged Battery Pack.
	Record pause mode has lasted for more than seven minutes.	Turn camera on again.
Video cassette compartment does not open.	Power source not connected.	Connect power source.
	Battery Pack charge is low.	Replace with fully charged Battery Pack.
Camera does not function when an operation button is pressed.	Camera is off.	Turn camera on.
	Battery Pack charge is low.	Replace with fully charged Battery Pack.
	Video cassette not loaded.	Load a video cassette.
OPERATE/CAUTION indicator flashes and "BATT" flashes in viewfinder.	Battery Pack charge is low.	Replace with fully charged Battery Pack.
OPERATE/CAUTION indicator flashes and "DEW" flashes in viewfinder.	Condensation (Dew) has formed inside unit.	Refer to "Condensation" (see p.60).
OPERATE/CAUTION indicator flashes.	An operating error has activated the safety mechanism.	Unload and reload video cassette.
"E" appears in viewfinder.	Lithium battery not in place properly or charge is low.	Insert new lithium battery (see p.13).
START/STOP button is pressed, but recording does not start.	Camera is off.	Turn camera on.
	Video cassette not loaded.	Load a video cassette.
	Tape has ended ("T.END" appears in viewfinder).	Rewind tape or use another video cassette.
	Erasure prevention switch on the video cassette is set to prevent recording.	Use another video cassette or set switch to enable recording (see p.19).
	The camera is in stop mode.	Turn camera off then on again.
No picture appears in viewfinder.	Image invert switch not properly set to NORM or ANGLE FINDER.	Set Image invert switch properly to either NORM or ANGLE FINDER.
	Lens cap is still attached to camera.	Remove lens cap.
Camera will not start playback from stop mode.	Built-in safety mechanism is operating.	Turn camera off and remove video cassette. Wait 10 seconds and try again.

Problem	Cause	Remedy
Cannot adjust focus.	Zooming lever is in macro range.	Move zooming lever into normal focusing range.
	Viewfinder diopter not properly adjusted.	Turn diopter adjustment ring until viewfinder display becomes clear.
	Autofocus window is obscured.	Remove obstacle from autofocus window.
Playback doesn't start when PLAY button is pressed.	Camera is in record pause mode.	Press STOP button.
	Camera is off.	Turn camera on.
	Video cassette not loaded.	Load a video cassette.
	Tape has ended ("T.END" appears in viewfinder).	Rewind tape or use another video cassette.
Tape is moving, but no picture appears on TV monitor.	Video channel not set properly on both TV and RF Unit.	Set TV and RF Unit to appropriate video channel.
	TV/VIDEO selector on TV not set to VIDEO.	Set TV/VIDEO selector to VIDEO.

Poor playback picture on TV monitor

Loss in video playback picture quality such as blurring, distortion or noise usually means that the video heads have become dirty. Use the optional Canon 8 mm Video Head Cleaning Cassette CC-8 included in the Canon 8 mm Video Cleaning Kit CK-E1. See CC-8 instruction manual for details.



Condensation (DEW)

What is Condensation?

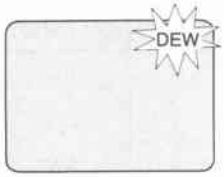
Condensation or dew means tiny droplets of water that occasionally form on the camera surface when it is moved from a cold place to a warm place. Using the camera when dew is present may damage both tape and camera.

Preventing condensation

Place the camera in a plastic bag prior to bringing it into a warm area where condensation is likely to occur. Wait until the camera reaches room temperature before removing it from the bag.

When condensation is detected

When condensation is detected in the camera, the OPERATE/CAUTION indicator flashes, "DEW" flashes in the viewfinder and the tape automatically stops. Immediately remove video cassette, leave video cassette compartment open and turn camera off. Leave the camera in a dry place until condensation evaporates.



- Sometimes "DEW" may not appear in the viewfinder until 10-15 minutes after dew has formed.

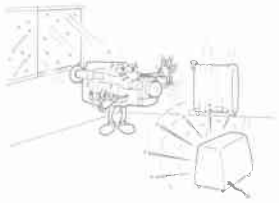
To start using camera again.

When "DEW" and the OPERATE/CAUTION indicator no longer flash when the camera is turned on, wait at least one more hour before attempting operation. The time required for condensation to clear varies with surrounding conditions; it can be as long as several hours.

Condensation is likely to occur when:

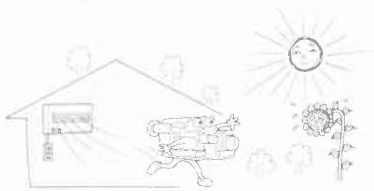
- Camera is brought from a cold place to a warm place

- A cold room is heated rapidly



- Camera is placed in a humid room

- Camera is taken from an air-conditioned room to a warm and humid place.



Specifications

E77

Power supply (rated):	6V DC
Power consumption:	7.4W
Television system:	CCIR standard (625 lines, 50 fields) PAL colour signal
Video recording system:	2 rotary heads, helical scanning system Luminance signal: FM azimuth recording Colour signal: Converted subcarrier phase shift recording (8 mm video standard)
Audio recording system:	Frequency multiplexing with the video signal by two rotary heads (one channel)
Image sensor:	1/2-inch CCD (Charge Coupled Device)
Tape format:	8 mm, 30/60/90-minute metal particle*
Tape speed:	20.051 mm/s (SP); 10.026 mm/s (LP)
Maximum recording time:	3 hours with P5-90 video cassette in LP mode.
Lens:	f/1.4 6X power zoom, 9—54 mm focal length, macro mechanism
Focusing system:	Active autofocus, manual focus possible
Minimum focusing distance:	1.2 m
Minimum illumination:	7 lux (zooming lever at wide angle end)
Filter diameter:	46 mm
Electronic viewfinder:	0.7-inch monochrome CRT
Microphone:	Non-directional electret condenser microphone
Output level:	Video: RCA pin jack (yellow): 1Vp-p/75 ohms, unbalanced (video terminal); Audio: RCA pin jack (black): – 10dBV/less than 3kohms, unbalanced (audio terminal)
DC terminal	Special mini. jack
Signal-to-noise ratio:	Video: max. 47dB (luminance)
Dimensions (Width × Depth × Height)	114 × 285 × 112 mm
Weight:	1.1 kg without Battery Pack or Charge Coupler

RF Unit RU-E3

European model

Power source:	5V DC
Power consumption:	40 mA (max.)
RF output:	30 - 39 selectable
Dimensions (W × D × H):	48 × 56 × 33.5 mm
Weight:	60g

Australian model

Power source:	5V DC
Power consumption:	30 mA (max.)
RF output:	ch 0 - ch 1 selectable
Dimensions (W × D × H):	48 × 56 × 33.5 mm
Weight:	55g

* Canon recommends metal particle tape.

Weight and dimensions are approximate. Errors and omissions excepted.

Subject to change without notice.

Canon

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PUB. D-IE-137
1088T6

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PRINTED IN JAPAN
IMPRIME AU JAPON